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T A L K S
A B O U T
P E O P L E ' S S T O M A C H S

B Y

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AUTHOR OF "NEW GYMNASTICS FOR MEN, WOMEN, AND CHILDREN," "WEAR LUNGS,
AND HOW TO MAKE THEM STRONG," ETC.

*"Without health we can enjoy no fortune, honors, or riches, and all other advantages
are useless."*

— HIPPOCRATES.

B O S T O N :
F I E L D S , O S G O O D A N D C O M P A N Y .

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To
MY MOTHER,

I Dedicate This Work.

SHE GAVE ME A PREDISPOSITION TO DYSPEPSIA; BUT WITH IT THE
CONTROL OF MY APPETITES; SO THAT I THINK THE INHERITED WEAK-
NESS HAS PROVED A MORAL ADVANTAGE. NOT ONE OF MY READ-
ERS WILL MORE FULLY APPRECIATE EVERY THOUGHT, AND
NOT ONE WILL VOUCHSAFE A MORE HEARTY BLESSING
TO EVERY GOOD INTENTION. THE VISION OF HER
BENIGNANT FACE AWAY THERE IN THE OLD
HOME, AND THE THOUGHT THAT SHE CON-
STANTLY MUSES OF HER ABSENT SON,
AWAKENS MY BEST IMPULSES.

To merit and enjoy her loving approval,

IS

MY RICHEST REWARD.

THE AUTHOR.

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INTRODUCTION.

Sitting one evening, near a reservoir, on the brow of a hill, overlooking a European city, my companion, an eminent physician, told me this story:—

"About twenty years ago I was called early one morning, to visit, in great haste, a family, at whose house I had spent the previous evening. The messenger exclaimed, 'Oh! Doctor, come as quick as possible; they are all vomiting themselves to death.'

"I jumped into my clothes, seized my stomach pump and ran. The doctors were flying in all directions. We cried out to each other. '*poison! poison!*' and rushed on. I assure you, sir, the town was given up to the wildest excitement I

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have ever witnessed. All suffered with the same symptoms,—vomiting, retching, thirst, and burning pain.

“At ten o’clock the Mayor called a few of us together for a moment’s consultation.

“I had the honor to suggest that the poison must be in the water.

“We ran up here, and right there in the corner, just under that tree, we caught a glimpse of a large paper package, and rushing into the water, we hauled out more than ten pounds of the deadly poison, still undissolved.”

The *Stomach* is the *reservoir* from which every part of the body receives its supplies, and most of its diseases.

Let us look out at this window.

Do you see that man with a red nose? That is produced by a poison which comes from his reservoir.

Notice that lady with the ugly eruption. The poison which produces that comes from her stomach, or reservoir.

There, that fine looking gentleman with a bad

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limp, has a big toe, which is *too* big. I know him well. He insists that the moon is responsible for his gout, as his bad attacks come on at the full of the moon. Well, I tell him, that the reservoir from which the poison, in his toe, comes, is somewhat like the moon in shape, and so he may not be so wide of the truth after all.

But look at that fellow! Did you ever see such a doleful face? That man has the blues fearfully; he wishes himself dead a hundred times a day. You see, his brain must receive its supplies from his stomach. But his stomach or reservoir furnishes, not sweet, healthy chyme, but acids and poisonous gases. Of course his brain gets poison instead of food. His face tells the whole story.

If we were to stand here and see a hundred people pass, we should be able to determine the condition of their reservoirs.

Ah! there's a good one! What a fine skin! What a bright eye! What an elastic step! That young woman's reservoir is sending to her system nourishment, and not poison.

It is the aim of this work to show the simple

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and natural means by which the stomach, or reservoir, may be kept in a sweet and healthy condition.

It is well known, that I have been busy with physiological and hygienic themes, for many years, and yet I do not think that the well-read student will find, in this work, much that is original. I have tried, rather, to present familiar thoughts, in a simple and attractive dress.

An author's ambition may have played a part in my earlier writings, but I believe I can now say, with sincerity, that in this little work, and in three others, which will quickly follow it, I simply try to make myself useful.

Conscious of possessing important facts and ideas, which may serve my countrymen, I send out these books at the mere cost of their production, and with the hope that they may meet the welcome, which so many have given to my previous works

OLD SISTER SMITH

I remember just how old sister Smith looked when she made that famous appeal. It was at the Friday evening prayer-meeting. She said :—

“Brethren, I can’t keep silent no longer. I would speak if I knew ’twould kill me. I am a poor widow without a cent. I haint got long to stay in this world, and I don’t care how soon my time comes ; but I will speak about these awful drinking habits, even if you all despise me. I know you will all think me heartless to talk about John’s drinking before he is cold in his grave ; but oh, my dear brethren, if you could suffer for an hour what I have suffered for nigh on to thirty years, I know you wouldn’t blame me. John didn’t want to be a drunkard, but he couldn’t go nowhere, but it was, ‘John, take a drop.’ ‘John, won’t you have a glass?’ ‘Johnny, come take something with us.’ Then when he got to going, he couldn’t stop. Brethren, can’t something be done? Half the

men in town are going the same way. If our dear pastor, the deacons in our church, and all the brethren of influence would set their faces agin this awful habit, if they would stop drinking themselves, and not keep it in their houses to offer to others, oh how many poor women and children would rise up and call them blessed Brethren, I hope you will forgive me for speaking so plain, but I couldn't help it."

When sister Smith sat down, half the women in the church were sobbing.

After a few moments' pause, our venerable pastor rose, and in his most solemn manner, said :—

"Our dear sister may rest assured that I feel deeply for her, but it is my duty, as her pastor, to say to her, that because she has been called to walk through the valley of sorrows, because her path in life has meandered on the banks of the cold streams of Babylon, she must not, on that account, fly in the face of Providence. Sperits is one of the good creatures of God, which we are commanded to use as not abusing them. Christ's first miracle was turning water into wine, and Paul exhorted Timothy to 'take a little wine for thy stomach's sake.'"

After further remarks, Elder Swan took his seat, the brethren all uttering "Amen" to his closing words, "May the Lord comfort and bless sister Smith."

Deacon Stone, at whose distillery John got his last drinks, which led to his being killed, rose and said :—

“ ‘He doeth all things well.’ ” Then Deacon Stone sat down.

For twenty years temperance lecturers were less respectable than libertines. Twenty years more, and we have made drinking disgraceful. Within the next twenty years drunkenness will disappear in the northern states, from all classes above the lowest.

Let no one lose heart. If he has a good cause, and his field is in the United States, he will win.

Gluttony counts a hundred victims where drunkenness counts one. The movement is inaugurated, and I expect to live long enough to hear no more of “Whatsoever is set before you, eat, asking no questions for conscience’ sake.” I expect to see, within a score of years, as much interest among men in regard to the healthfulness of the food upon which their children live, as they now feel about the diet of their calves and pigs. As soon as they believe that the food which their children consume determines the character of their digestion and their blood, we shall have a basis for operations. But they don’t believe it yet, and so you see little folks munching cake and candy.

Public sentiment uttered this edict: *Let no man*

speak against King Alcohol! Forty years pass, and we kick him into the street. The world learns but slowly, even from experience; so now when we declare that the present system of food is one full of harm and danger, we are confronted by the old, blind, stupid prejudice. They say "none of your bran-bread and moonshine for me," and sometimes they go so far as to call us "*reformers*," a word hot with contempt.

Here are thousands of pale, listless, indolent, unhappy girls, who might be changed, in a few months, into active, muscular, happy girls, by changing their dietary.

Propose it, and you hear, not "take a little wine for thy stomach's sake," but, "whatsoever is set before you, eat, asking no questions for conscience' sake." The reverence for authority among these people is really very touching. They quote the Scriptures with all that religious awe formerly shown in quoting, "Servants obey your masters."

We are now ready for this great subject of food. We have long studied it in connection with the breeding and training of our domestic animals. Now we are ready for the food of man.

Science has taught nothing more distinctly than, *that certain foods feed the fat, and leave the muscles and brain to starve. That certain other foods feed the muscles too exclusively, and certain others the brain.*

Our present familiarity with the composition of human foods, and their adaptation to our bodies, enables us to supply any deficiencies in our physiological life, with the same certainty which marks the treatment of defective soils, by the agriculturist.

This food question is ten-fold more vital than the whiskey question. It begins with the first day of our life, and links itself with the welfare of every human being every day of life. I am not dreaming when I say that the wise solution of the food question will contribute immensely to that elevation of man, which burdens every saintly prayer.

I earned a reputation as a successful doctor. A very considerable part of that success came of what may be called the "*Nutritive Cure*." Thousands of people starve to death. For example, a large part of food among Americans is composed of white flour, sugar and butter. People who try to live upon such stuff gradually starve to death. These things furnish food for fat and fuel for the lungs, but they fail to feed the brain, nerves, bones and muscles, and so these important parts starve. Not only does the brain become uncertain in its action, but headache and neuralgia are common, the muscles become thin and weak, and back of all this, the blood itself becomes so imperfect and poor that scrofula and other taints are developed.

Health the Best Wealth.

Nothing discourages the health reformer like the quiet satisfaction with which people live without health. If a woman can eat and sleep, and is able to attend to the ordinary duties of life without pain, she is not only satisfied, but grateful for such a merciful dispensation.

Let people be satisfied with such poverty in other departments of life ; let a man be satisfied with just enough to buy the food for the hour ; we cry out, " Shiftless, good-for-nothing," and yet how contemptible is money by the side of health ! A man who lives in the midst of the plenty of the new continent is rich, if he possesses health. No matter what may be his surroundings, though he be a millionaire or wear a crown, he is poor indeed, if he be sick.

I want to see a noble ambition to grow rich in this true wealth. I want to see men and women very misers of physical vigor.

Look at those two men. They are the ordinary pale, round-shouldered Americans. To-day they have nothing but their naked hands, and brave hearts. They engage in the struggle for success. One gives up body and soul to making money, the other, a generous part of his life, to laying up this inestimable

wealth of health. Ten years elapse ; now we look at them again.

The greedy merchant counts his gold by the million ; but he is twenty years older than when we saw him first. He is thinner and paler ; he is dyspeptic, nervous, anxious, old, thoroughly unhappy. That man has made a wretched failure in life. Every large heart sincerely pities him.

Now we look at the other. Erect, broad-chested, muscular, vigorous, healthy, happy, buoyant, victorious. We will not trouble ourselves to ask how much money he has collected. We cannot look upon him without feeling that he has achieved a grand triumph.

I wish I felt at liberty to mention a few Boston names. It would strikingly illustrate the point under discussion. I could mention the name of a gentleman who resides on the hill near my own home, who has amassed an immense fortune. His carriage is the finest in the neighborhood, and I notice in many unusual ways the most lavish waste of money. But I never see that gentleman without pitying him from the bottom of my heart. His face is a picture of despair. Nervous and dyspeptic, life is all a torture to him. I should not be surprised to hear of his committing suicide. Half the rich men and women in town belong to the category of the miserable. They can't digest their dinners.

Mysterious Providence.

My friend Mr. P., an insurance agent, dropped in an hour ago and urged me to add \$20,000 to my life policies.

In the course of our conversation he told me, as usual, of the man who had made up his mind to go in for \$10,000, but put it off for a week till he should come in town again. In the mean time, of course, the poor man died. "And yet he was the healthiest looking man I ever saw," said P., and then he added, "but that, you know, makes no difference; the healthiest men are just as likely to die as the sickly ones."

The common notion that our health and life depend upon a mysterious Providence, is not only mischievous and demoralizing, but it is downright infidelity. That man who stands by, while ignorance and stupidity rule the hour, exclaiming, "*What a mysterious Providence!*" over a death by croup or fever, or any other malady or accident, I pronounce an *infidel*, and a most mischievous one.

When a party of thieving, reckless railroad directors devote themselves to watering stock, and hoodwinking stockholders, until a weak, worn-out rail gives way, and a train is hurled down a precipice, is there anything mysterious about it?

If a child goes out of a heated drawing-room, with naked arms and legs, in pursuit of its daily supplies of poisoned candies, and then sickens of croup, when that child dies is it a mysterious Providence?

If a man indulge himself until he develops gout, and the disease attacks his heart and kills him, is his death a mystery? If he drink brandy till he dies in delirium tremens, is his death a mystery?

I shall never forget a case, which, during my boyhood, excited wide discussion among our people, and was more than once mentioned in our churches, as an illustration of Providential interference.

Two thieves broke into our neighbor's stable and stole two beautiful, high-bred mares. They rode these splendid creatures more than twenty miles the first hour. At this point they stopped to cut some whips, but on resuming their flight, one of the mares, not relishing the whip, contrived to throw her rider and break his neck.

The changes were rung on all the possible views of Providential interference. Now the fact in the case was this: the young man with the dislocated neck was not half so much of a rascal as his older companion, who got away "just as slick as a button"; but the difficulty with the young man was, he could not stick on. He was a poor rider and he couldn't stick.

The older companion (a great villain), was a good rider and he could stick.

I remember another case which produced an impression. A young scape-grace snatched a piece of mutton from a neighbor's table, and tried to swallow it without chewing. He was choked to death. The ignorant cried out that he was killed by a mysterious Providence; but the doctors found upon examination that it was not a mysterious Providence that killed him, but a chunk of mutton. The mutton was bigger than the boy's swallow, and so it choked him.

The lesson of the event was, not that "God moves in a mysterious way," etc., but that people must not swallow big chunks of mutton.

Perhaps no other error has done so much to destroy respect for God's law, and thus to destroy all true religious sentiment among men, as this blind superstition! How shall we show respect, reverence and love for God, but by a reverential study of, and obedience to, his laws?

But to return to my friend, the insurance agent.

He said, as you remember, "but that makes no difference, you know, for the healthiest men are just as likely to die as the sickly ones." For my part, I know nothing of the kind, and should be paralyzed if I believed it. Not another hour would I give to the

"HEALTH OF OUR BODIES," if I believed that life and health depend upon some mysterious Providence.

No, indeed, and in fact no one believes this doctrine, when it is sifted to the bottom.

In our principal street there are 4000 buildings. Some are well built, others are shams, hardly strong enough to stand; in fact, frequently, they do fall.

Now what would you think of a man who should go about saying, "But then, you know, that makes no difference, the strongest buildings are just as likely to fall down as the weakest."

But I will not insult your common sense by arguing this point further.

Our health and life are, practically speaking, placed by the Good Father in our hands. A healthy man, with good habits, has a good lease for a long life.

Let me select one hundred men, forty years of age, and let me control their habits and occupations, and I will insure their lives thirty years, for a percentage, which would sound ridiculous, in comparison with the present rates.

An Illustrative Anecdote.

The nature of the common belief, or superstition, and Providential interference, is very aptly illustrated in an anecdote, which I saw many years ago. My

readers have probably seen it, but will not weary with its repetition.

It seems that a hard-shell Baptist minister, living somewhere on the frontier of Missouri, was in the habit of saying to his family and to his church, "Friends, you need not take any unusual care about your lives, the moment of your death was 'writ' before the foundation of the world, and you cannot alter it.

His wife observed, when he left on Saturday, to meet one of his frontier missionary engagements, that he dressed the flint of his rifle with unusual care, put in dry powder, fresh tow, and took every pains to make sure, that the gun would go, in case he should come upon an Indian.

It struck her one day as she saw him in the saddle, with his rifle on his shoulder, that his conduct contradicted his teachings, and she said to him — :

"My dear, why do you take this rifle with you? If it was 'writ' before the foundation of the world, that you were to be killed during this trip by an Indian, that rifle won't prevent it; and if you are not to be killed, of course the rifle is unnecessary; so why take it with you at all?"

"Yes," he replied, "to be sure, my dear, of course you are all very right, and that is a proper view; but

see here, my dear,—now,—really,—but then,—you see, my dear,—to be sure,—but then,—suppose I should meet an Indian while I am gone, and his time had come, and I hadn't my rifle with me, what would he do? Yes, my dear, we must all contribute our part towards the fulfilment of the decrees of Providence."

A boy takes to whiskey, tobacco and profanity. No one is silly enough to speak of mysterious Providences. The vilest have too much respect for our Father to connect his revered name with such filth and vice. These are the vices of the *boy*; and seeing this, we go to *him*, we exhort him to reform, and become a decent, manly man. But if he resist all appeals, and at length his nervous system gives way, and he falls down dead in apoplexy, or paralysis, you will sometimes hear people talk of a mysterious Providence, trying to cover up the mean, cowardly vices, which led to the degradation and premature death.

In the name of truth, and for the sake of the living, let us cease this hypocrisy and blasphemy over the coffins filled with the victims of vice. Let not the name of the All-Good and All-Pure be associated with such shame.

A Bad Lot.

A large whiskey distiller in central New York had

three sons, who assisted their father in his nefarious business. None but God will ever know the misery of which that distillery was the source.

The distiller and his sons were among the victims. The father threw himself into a well in a fit of delirium tremens. The oldest son, during an attack, imagined his tongue a snake, drew it out, bit it off, and bled to death. The next son, while suffering the same horrible phrensy, threw himself into the well which received his father. The last one of the four, while driving a wagon load of whiskey to his place in the country, pitched off his seat, was run over by the wagon, and killed. I attended the funeral of this one, and while thousands of the poor women and children of the county were thanking God that the last of these wretches was gone, the minister, in a whining, sanctimonious voice, spoke of that strange and mysterious dispensation of Providence, by which the head of this household had been removed from the midst of his labors and loves.

Most devoutly do I believe in Christianity. I believe there is nothing else in this world, worth living for; but I should infinitely prefer to hear at a funeral the bald negations of a soulless Atheism, rather than the hypocritical, cowardly cant and falsehood which I heard at that funeral.

If the surviving friends, in such a case, do not wish the shameless life of the deceased to render its first genuine service, by being shown up as a warning, then pray let them look to some one beside a minister of Christ, to play a lying farce for them.

What is needed, is, that every one should feel his own, individual, personal responsibility to God for his physical, intellectual, social, moral and religious conduct.

If a man believes that everything comes of accident, or out of mystery,—that, for example, sickness and premature death come of a mysterious Providence, his manhood is emasculated, and he becomes the creature of a weak superstition.

Let us never give up the blessed faith that we have a Father in heaven, who loves us, and is ever ready to listen to our gratitude and petitions. Without this precious faith the world is a dark wilderness, with no ray of light, with no friend, with no hope. But let us realize if we thrust our hands in the fire, it will burn, or if we transgress any other law, physical or moral, we must suffer the penalty. Let us never impute to the Great All-Wise a foolish inconsistency with Himself.

The Animal and Vegetable Compared.

If we compare an animal with a vegetable, one of the first differences which will strike us is that the vegetable stays in one place, while the animal moves about ; the vegetable is always at home, while the animal has just stepped out and won't be home until near dark. This distinction is not universal, but it is a common distinction, and one of the most salient points of difference. The tree in your door-yard has stood exactly in that place ever since you can remember ; it has never released its firm hold upon the earth at that particular spot, while the cow goes every morning to the pasture, wanders about all day, and returns in the evening.

As the mouths of the vegetable are always in contact with its food, it needs no stomach to hold a quantity of nutriment ; but the animal, which must be separated, for considerable periods, from its supplies, has a sack to carry along a quantity.

A man does not go to mill after flour for each meal, but he brings home a large sack, upon his back, which may last him a month. So we all carry a sack, not upon our backs, but within the body, in which we bear about a quantity of food ; and in this way we get time for something besides eating. What helpless

creatures we should be if we were compelled to lie down in one place, and keep our mouths in our food, sucking away constantly, like a vegetable !

In some animals that have but very indifferent means of defence, an enormous stomach is provided, which they fill with rapidity, swallowing the food without chewing, and then, seeking a safe retreat, they deliberately raise the food from the stomach, in small masses, and chew it thoroughly.

This is a most interesting illustration of our Father's loving protection. How could the gentle sheep exist, in a state of nature, surrounded by carnivorous animals, but for this wonderful provision. Where food is in abundance, it can fill its great stomach in a few minutes, and then hurrying away to some secluded spot, it conceals itself, and quietly raising the food which it swallowed without mastication, one small mass after another, it proceeds to grind it without fear, and with great enjoyment.

He who can study the digestive apparatus of a sheep and conclude that its wonderful provisions came of chance, is a *fool*.

The digestive mechanism of a chicken is another wonderful instance of Divine wisdom and benevolence.

The study of such manifestations of God's care of his creatures awakens the dearest and truest religious passion.

Prevention of Disease.

Probably the prevention of maladies was scarcely thought of until about the time of Hippocrates, though the Egyptians attempted it by emetics, cathartics, and frequent fasting. We are told that the reason for all this, was: "The greatest part of the aliment we take in, is superfluous, which superfluity is the cause of all our distempers."

It would seem that the first attempts made to prevent any untoward results in regard to health and longevity, is that in which we are told, that King David's servants, when he was old and stricken in years, placed a healthy young virgin to lie in his bosom.

It is perhaps impossible now, to determine who first recommended temperance and exercise as preventives of sickness, and sources of health. After Pythagorus, Iccus, a physician of Tarentum, urged temperance and exercise. His own sobriety was so remarkable, that "The repast of Iccus" was, for a long time, a proverbial phrase.

Herodicus has been generally regarded as the inventor of this means of preserving health.

It is a curious fact that Plato censures him for thus keeping people of crazy constitutions alive to old age. Whereas Plato thought, that if a sick person did not

soon recover strength, he had better die, and be out of the way. Plato believed that an infirm constitution was an obstacle to virtue, "because such persons think of nothing but their own wretched carcasses," for which reason he contended that *Æsculapius* should not undertake to patch up persons habitually complaining, lest they should beget children as useless as themselves, being persuaded that it was an injury both to the community and to the infirm person himself, that he should continue in the world, even though he were richer than *Midas*.

So *Herodotus* relates that when any man fell sick among certain tribes, his next neighbor killed him directly, lest he should lose his flesh, and thus his body become unfit for food. So when any one of these people found himself indisposed, he withdrew privately into some distant place, with no one to take care of him. Ah, these were the golden days of which the poets dream!

Hippocrates. Hippocrates made more important contributions to the advancement of medical science than any other man in the history of our race. This remarkable man was born in *Cos*, an island in the Archipelago, about 858, B. C. He was a nobleman and a man of strict virtue and piety. His instructions seem to us now simple enough, but for the period in which he lived, they were little short of miracles.

Hippocrates' Modes of Preventing Disease.

The following constitutes the more salient features of his instructions upon the prevention of disease. I can only quote occasional paragraphs, but wish that I might add many pages.

He says: "In the winter, to resist the cold, let your food be dry and warming. In the spring, when the weather grows milder, the diet should be accommodated to the season, and should be somewhat cooler and lighter. In summer, when the season becomes hot and dry, the food should be cool and the drink diluting. But after the autumnal equinox, your aliment should again be of a warming nature, and your clothes thicker by degrees as you approach the winter.

"It is of great moment to a man's health whether his common bread be white or brown, well or ill baked.

"It is very injurious to health to take in more food than the constitution will bear, when, at the same time, one uses no exercise to carry off this excess.

"A variety of foods, discordant in their nature, should not be indulged at one meal, because they make a disturbance and create wind in the bowels.

"If they who have been accustomed to one meal a day should chance to eat two, they soon grow dull, heavy and thirsty.

"Excess in drinking is not quite so bad, as excess in eating.

"When the body is impure or loaded with bad humors, the more you nourish it, the more you hurt it.

"Mutton is good food for the delicate, and for the robust.

"Milk is hurtful to those whose bowels are subject to flatulency, or grumbling, and to those who complain of thirst, but good for the consumptive and emaciated, if they are free from fever and the above-named derangement of the digestive apparatus.

"The healthy and strong may drink such water as comes in their way indiscriminately, but they who drink water for the recovery of health, must be careful in the choice they make. The lightest, purest and softest waters are most fit for those who are apt to be costive, whereas the hardest waters do most service to those whose bowels are moist and phlegmatic. Hot temperaments receive benefit from drinking water. Water drinkers generally have keen appetites."

After Hippocrates no other great light arose in medicine for several hundred years, though Polybus, a son-in-law of Hippocrates, Dioclese Carysteus, who lived near the coast of Greece, and Celsus, who lived in Tiberius' time, made some important contributions to the preservation of health. Plutarch, though not

a physician, composed an elegant dialogue on the preservation of health. Agathinus, who was a contemporary with Plutarch, practised physic at Rome, and is mentioned in several places by Galen.

I think it will excite surprise that Agathinus wrote the following words:—

“Those who desire to pass through this transitory life with health, should bathe themselves frequently in cold water. I can scarce find words to express the benefit which people receive from this practice, and even in extreme old age, cold bathing to such as have been habituated to it, will render the body firm and the countenance lively, will strengthen the appetite, and assist concoctions.”

Galen, the most voluminous of medical authors, wrote much upon the subject of preventing disease by temperance, but, as may be supposed, when it is stated that he wrote between seven and eight hundred works, great and small, his writings were very diffuse.

Hufeland and other German writers, Broussais and other French authors, but more than any of them, the great Abernethy of England, have, among modern physicians, contributed to the dissemination of temperance in all things as a source of health and long life.

England has given us a thousand volumes upon temperance as a condition of health and longevity.

Galen.

Galen was born in lesser Asia, about the year A. D. 131. He lived, by the practice of great temperance, until he was one hundred and forty years old, and was one of the most voluminous authors the world has ever seen. He says : —

"I was born with an infirm constitution, and was afflicted in my youth with many and severe illnesses ; but since I arrived at the twenty-eighth year of my age and knew that there were sure rules for preserving the health, I have observed them so carefully, that I have labored under no distemper since that time, except now and then a fever for one day, which my fatigue in attending the sick brought upon me. A man, whose body is clear from every noxious humor that can hurt it, is in no danger of contracting any illness, except from external violence or infection ; and why may not proper care be taken to keep the body clear from all such noxious humors ?"

Galen discussed what he called four articles, with regard to the preservation of health : —

1st. Infancy.

2nd. Old age.

3rd. Difference of temperament, and

4th. The care necessary to be taken by those persons whose time is not in their own power.

1st. *Infancy.* New born children should be fed with their mothers' milk only. Nurses should give them exercise in the cradle and in their rooms, and should be very watchful about the causes of their crying. They should be fed with milk until their front teeth are cut, then add bread and other forms of aliment. The mother should take great care about her diet, exercise and sleep, so that her milk may be good.

2nd. *Old age.* Rubbing with the flesh brush is good for old people. It increases the motion of the blood, excites a gentle heat, and helps to distribute nourishment throughout the body. They should walk and have much gentle exercise, particularly such exercise as they have been accustomed to. Old people should avoid cheese, pork, eels, and everything hard to digest. An old man's own experience must determine whether a milk diet be proper for him or not, since it is surprising to see what different effects it has on different constitutions.

3rd. *Of Different Temperaments.* Under this head Galen discusses nine temperaments, — the hot, the cold, the moist, the dry, the hot and moist, the hot and dry, the cool and moist, the cool and dry, and then one which occupies a medium between all extremes, and which he calls the good or healthy temperament. He makes many ingenions suggestions in

regard to the management of diet, exercise, etc., in connection with each of these various temperaments ; but these suggestions are more curious than useful.

4th. *Of those whose time is not in their own power.*

Under this head Galen advises statesmen, students and others, whose employments compel sedentary and other engrossing habits, to observe the following rules : —

1st. After any extraordinary mental exercise, they should live more abstemiously than usual. He says of himself, that when at any time he was fatigued and spent with business, he chose the most simple food he could think of.

2nd. That the common diet of such people should be plain and simple, and such as they can easily digest.

3rd. He advises that they should set apart some portion of their time for exercise every day, whatever their engagements may be.

We cannot give more space to the writings of this remarkable man, though I cannot forego the pleasure of quoting the following words : " I beseech all persons, who shall read this treatise, not to degrade themselves to the level of the brutes or the rabble, by gratifying their sloth, or by eating and drinking promiscuously whatever pleases their palates, or by in-

dulging their appetites of every kind ; but, whether they understand physic or not, let them consult their reason and observe what agrees best with them."

Is it not an interesting fact that, while the treatment of disease by medical or other artificial means has constantly changed, the means extolled to-day being condemned and ridiculed to-morrow, that the thoughtful physicians of all time have agreed about the natural methods. The most eminent men of every age have agreed, often in minute detail, about the employment of temperance, sleep, cleanliness, sunshine, cheerfulness, etc., etc., in the prevention and cure of disease.

It is a noteworthy fact that the most distinguished men of every age and of every school have, in the riper years of life, declared for the natural methods, and against the artificial drug methods. Many of the most distinguished might be quoted as leaving to the world, at their death, the testimony that the world would be better off if there had never been a doctor, — that, on the whole, doctors had proved a curse.

And yet there can be no doubt that, if doctors would practice the natural methods and teach the divine laws of health incidental to such methods, they would stand high above all other men in their beneficent services to their fellows.

The Digestive Organs.

These are the *mouth, teeth, salivary glands, pharynx, œsophagus, stomach, intestines, liver, pancreas, lacteals, and thoracic duct.*

The alimentary canal extends from the mouth to the anus, and is, in an average man, about thirty feet long. If the mucous membrane that lines it were spread out, it would be found to be nearly fifteen square feet.

The *Mouth* is an irregular cavity that contains the organs of taste and mastication.

The *Salivary Glands* are six in number — three pairs, to wit: the parotid (this is the gland which is swollen in mumps, and lies in front of and below the ear) the sub-maxillary and the sub-lingual, both under the tongue, — all discharge their fluids into the mouth.

The *Pharynx* is that large back space into which we look when the mouth is opened wide.

The *Æsophagus*, or meat-pipe, about nine inches in length, is the tube which passes the food down from the pharynx to the stomach.

The *Stomach* is our reservoir for food and drink. Its office is to convert the food into chyme. For example, a mass of bread comes down into the stomach. Let us watch it. It begins to move about in the stomach. This is accomplished, as described in an-

other place, by a peculiar motion of the stomach. As this mass of bread is pushed about from one part of the stomach to another, we notice that it soon begins to undergo a change, and, if we keep our eyes upon it a couple of hours, we shall see it change into a fluid resembling buttermilk. That is *chyme*. This change constitutes the principal office of the stomach.

The *Small Intestine*. The small intestine is about twenty feet long. It begins at the right hand end of the stomach, just under the liver, and ends down near the right groin. It is divided into three parts, — the *duodenum*, the *jejunum* and the *ileum*.

The *Duodenum*, the first part, that which is joined to the stomach, is about eight or ten inches long.

The *Jejunum* (from a word which means empty, because it is generally found empty), comes next, and is about eight feet long.

The *Ileum* (from a word which signifies to twist), and so called from its numerous coils, includes the remaining ten or twelve feet of the small intestine.

The *Large Intestine*. The large intestine extends from the end of the small intestine, near the right groin, to the end of the bowel or the anus. It is about five feet in length, and has the following course ; First, it mounts directly upward from the place of beginning to the under side of the liver, passes directly

across to the left side of the abdomen, and then descends into the lower part of the abdominal cavity, where it takes a sudden turn, known as the Sigmoid Flexure, and there becomes the rectum, or straight intestine, which is the last portion and ends in the anus. Mounting upward, in the right side of the abdomen, passing across the upper part and then turning down on the left side, the large intestine folds itself around the small intestines, as one's arms might be put around them. The large intestine, as mentioned above, is divided into three parts, — the cæcum, the colon, and the rectum.

The *Cæcum*, derived from a word which means blind, is the first part of the large intestine and extends downwards from the point where the small intestine enters the large one. It is a large pouch, generally about two and a half inches long and wide.

The *Colon* is all that part of the large intestine which ascends from the cæcum to the upper part of the abdominal cavity, runs across the top of the abdomen, and descends on the left side to the pelvis, where it terminates in the rectum. These three divisions of the colon are known as the ascending colon, the transverse colon, and the descending colon.

The *Rectum*, the last six or eight inches of the intestine, is so called from a word which means straight,

because it is less flexuous than any other part of the intestinal canal.

The *Liver* is the largest gland in the body, and is situated in the upper part of the abdominal cavity, immediately under the diaphragm, and mostly in the right side. This gland weighs from three to four pounds, and averages from ten to twelve inches long, from right to left, and six or seven inches from front to back, while it is about three inches thick in its thickest part, which is at the right end. The liver is held in its position by five strong ligaments, and is in many senses the most important organ of the whole body. It is not difficult to find animals without eyes, without ears, without stomachs, without lungs, without hearts, but it is very difficult to find an animal without a liver. This organ plays a very important part in the economy of all animal bodies. It secretes bile, which is important in the process of digestion. In addition to this, it performs a vital service, viz., it gives birth to the blood globules. These little blood disks, or red globules, perform a duty so closely connected with every other process or function in the body, that they may be spoken of as pivotal in the animal economy. These little blood disks are actually born in the liver. At first they are little pale things. The liver feeds and educates them until they are red, ripe, full grown

adults. They perform their important duty, and finally, when they reach the period of old age (how soon that is we cannot tell), the liver, which gave birth to them, nursed them and fitted them for duty, now performs the office of breaking them down, destroying them and casting them out. They are ejected through the bile, which is poured into the intestine. In the process of manufacturing these blood globules a certain amount of sugar is necessary. This sugar is not, (?) found in the blood, and so this remarkable organ is endowed with the marvelous power of creating sugar within itself out of materials in the blood, and it then uses the sugar in the process of creating blood globules.

The Pancreas. The pancreas (sweetbread), from words which signify all flesh, is a little gland six or eight inches long, weighs a few ounces, and lies against the back wall in the upper part of the abdominal cavity, directly behind the stomach. The fluid which this gland furnishes looks very much like the saliva, and indeed possesses very much the same properties. It is discharged into the first portion of the intestine, where the bile is poured in. The office of this fluid is similar to that of the saliva. It completes that change from starch to sugar which the saliva may have left incomplete, and which the fluids of the stomach have no power to accomplish.

The Mouth The mouth was defined as an irregular cavity which contains the organs of taste and mastication. While the food is in the mouth we have direct control over it; but as soon as the food leaves the mouth it passes beyond our control. It is of no use to say to a man after dinner, digest your food well, for he has no direct control over anything in the alimentary canal below his throat. But, while the food is in his mouth, it is entirely under his control, and he may contribute more than most people imagine to the completeness of the great digestive function.

Now, it happens that the human stomach cannot digest starch, and yet a very large percentage of our food consists of starch. We all know how much starch there is in the potato, in bread, and so in various other articles of food.

If, for example, a potato could be introduced into the stomach without passing through the mouth, the stomach would find it most unmanageable. But if it can only remain a few moments in the mouth, and with the assistance of the teeth be ground into a paste and thoroughly saturated with the saliva, the starch, of which it so largely consists, will undergo, through the agency of the saliva, a change which will make the subsequent steps in the digestive process easy.* That change, it will surprise some people who have

not studied it, to learn is one from starch to sugar. The saliva contains a remarkable ingredient known as *ptyaline*. The ptyaline comprises about 1-200th part of the saliva. This extraordinary agent has the magical power of changing the starch of the food into sugar, and thus the potato is completely prepared for the subsequent steps in digestion.

Whoever has taken a mass of wheat into the mouth has experienced a very pleasing illustration of this change of starch into sugar. When the wheat is first crushed in the mouth it is sticky and has the starch taste, but almost instantly it becomes sweet. In this brief moment the saliva has changed the starch into sugar.

Need anything more be said of the importance of a thorough use of the teeth upon the food?

I used to know a delicate lady, long since dead, whose general health was never the best, and whose stomach was singularly sensitive. She was a thoughtful woman, and accomplished during her brief life a great amount of intellectual labor. If she ate an ordinary dinner, say a piece of beef and a slice of bread and a potato, her stomach within a few minutes would turn sour. She would have constant acid eructations, pain and burning in the stomach, and sometimes sought relief from her sufferings by putting her finger

in her throat to provoke vomiting. But when she ate the same dinner in a peculiar way she was never troubled. This way was to spend three quarters of an hour, or an hour, upon a common dinner. If she ground every particle of food, mixing it thoroughly with saliva, she could digest a large dinner without stomach symptoms. What was true, to this unusual extent with Mrs. M., is true in some degree with every one. The fact is, our whole duty, after the selection of the right kind and quantity of food, is to perform the mouth service well. That being done, we may trust the digestive apparatus to attend to every other duty without our supervision.

Curious it is that people will bolt their food. Why, a piece of bread half as large as one's hand, ground and thoroughly insalivated, will give more palate pleasure than a dinner of the richest food, if it be simply divided by the teeth into masses that will go down, and then helped into the stomach with some drink.

Eating without Drinks. I was once stopping in a German city, and one day, when dining at a restaurant, I heard my own language spoken by some one in a neighboring stall. I immediately rose, stepped to the stall and said in English, "Did I not hear some one speaking in the English language?"

"Oh, yes," replied a middle-aged gentleman, "I can speak English."

Having myself spoken German until I could hardly swallow, it was a great joy to converse during the dinner in my own dear mother tongue. At the end of our dinner we made an engagement to meet later in the evening* at a place of amusement, and before we rose, he said to me in a queer sort of way : —

“Have you a thin skin?”

“I don't know as I understand you.”

“Have you a thin skin? I mean to say, are you sensitive to criticisms of your country or your countrymen?”

“I don't think I am particularly sensitive, if the truth be told.”

“Well, then, let me tell you, that during my six years' residence in America, I saw nothing which surprised me so much as the way in which the Yankees eat and drink. “Why, I really think it is worth an admission fee to stand at the end of a dining room and see a hundred Yankees at the dinner table. Each one has something to eat in one hand and something to drink in the other. When the food hand goes up, the drink hand is down, and when the food hand goes down, the drink hand goes up. It always reminded me of one of those walking beams on a steamboat, — when one end is up the other end is down. Now, sir, I think that is the reason that the American peo-

ple are such dyspeptics. Why, sir, I believe that in a world's exhibition of dyspeptics your country could show more in number, and stronger in quality, than all the rest of the world."

There can be no doubt, as argued in another place, that the design of the Creator is that we should prepare our food for the stomach by mastication, grinding it down to a paste and thoroughly saturating it with the juices of the mouth; and, as digestion is one of the great functions of the animal economy, and as the contribution we make to it in the mouth is the only direct voluntary contribution we are permitted to make, nothing would seem to be more important than the proper performance of that duty.

As a very large part of our nutriment is starch; as the human stomach has no power to digest starch, and as the salivary apparatus furnishes a fluid which, in an almost miraculous manner, transforms that starch into sugar, it would seem to be almost unnecessary, to even the most ordinary capacity, to demonstrate the importance of a thorough mastication of the food, and a disuse of all outside liquids during meal time.

Sense of Taste.

There has been a great deal of very interesting discussion about the precise seat of the sense of taste. Experimenters have reached widely different conclusions. Some think that the sense of taste is confined to the very back part of the mouth and tongue, and to the overhanging palate; in other words, to those parts which are seen upon widely opening the mouth, in the very back part.

Magendie is of the opinion that the pharynx and even the gums and teeth are endowed with the sense of taste. Valentin and Wagner believe that the top of the tongue, especially about the middle part and toward the tip, has no sense of taste whatever.

There can be no doubt that the back part of the tongue, where the large papillæ are seen, and the parts immediately surrounding, both at the sides and above, are most highly endowed with the sense of taste, while my own experiments lead me to the conclusion that the edges of the tongue and the tip are susceptible to sour, sweet and bitter substances in a moderate and varying degree.

Ingenious experimenters have thought that certain portions of the mouth are devoted to bitter, sour, and sweet tastes, respectively.

The Teeth.

At birth, the germs of both sets of teeth,—the *temporary* and the *permanent*,—are already in the jaw. The permanent teeth lie in a line under the temporary ones, and, when the permanent ones begin to move forward to make their appearance, they push the milk teeth out. This is the natural order.

To secure a good start for the permanent teeth, the first or temporary ones must receive good care, and be kept in their places until the permanent ones push them out.

Man has thirty-two teeth. They are of three sorts,—the *incisors*, *canine* and *molars*. The incisors are the front or cutting teeth, four in each jaw. The canine or eye teeth are two in each jaw. The molar or grinding teeth are ten in each jaw.

The back teeth in both jaws are known as *wisdom* teeth. They are called *wisdom* teeth because they appear at a period when man is possessed of the largest and ripest wisdom—or when he thinks so.

Good teeth constitute the finest ornament of the face; they are necessary to good articulation; they are indispensable to good digestion and sweet breath.

On the whole, their importance justifies the adver-

tisement of the South Carolina gentleman, who appeared in the New York *Herald*, as follows :—

“Wanted, by a planter in South Carolina, a wife. She must be under thirty years of age, must have a good disposition and good teeth.”

I really don't blame the girls for talking in the streets with their mouths wide open, for, although sometimes they may not speak quite so plain, they do show their teeth to good advantage; and especially when they give one of those little, short, open-mouth laughs now so common among girls, in which they open the mouth so wide that you can see the entire thirty-two teeth,—I do not blame them, for a mouthful of pearls is so very beautiful. I don't care what the nose or eyes may be, if the mouth shows complete rows of the brilliant gems, that face is a fine one,—a sweet, wholesome one. While no matter how fine the eyes and nose, if the mouth shows decayed and blackened teeth, or artificial ones, that face can't be a fine one,—it is not sweet and wholesome.

The better classes of Americans are now exhibiting perfect teeth. Fashion demands it. They keep them clean, which never fails to preserve them.

Why do our Teeth Decay?

Now listen to the answers which are given.

1st. "Because we eat sweet things. Do you not remember how the affected teeth ache when sugar comes in contact with them?"

2nd. "Because we eat sour things, — acids. We use lemon juice, vinegar, and other acids, and they destroy the enamel of the teeth, and then the work of destruction goes on."

3rd. "Because we use very hot and very cold food and drinks. We take into our mouths hot coffee, then ice water, now a scalding pudding, then ice cream. These extremes crack the enamel, and thus begin the work of destruction."

4th. "Because we use saleratus in our food. When saleratus was first introduced into New England, we had perhaps one dentist; now we have thousands. Don't you see it is the saleratus?"

I have no doubt that each and all of these things is bad for the teeth, but you may indulge in every one of them, and not lose your teeth, if you will **KEEP THEM CLEAN!** Clean teeth don't decay. Look at that man's front teeth; see how white and clean they are. How long do you think it would take that front, flat, white surface to decay if kept as clean as it is

now? Never, you say. You are right. Now let me ask you another question. How long would it take the surface between the teeth to decay if kept equally clean? I answer for you, it would not decay in a hundred years. I will show you as many white black-birds as you will show me clean white teeth beginning to decay. It is, I think, a physiological impossibility.

All there is of this business is simply this: *keep your teeth clean and they won't decay!*

How shall they be kept clean? Of course with a tooth-brush, says some one. Yes, a tooth-brush is a good thing, but one good tooth-pick is worth an arm-full of tooth-brushes. The tooth-brush does well in keeping the flat sides of the teeth clean. But on those flat surfaces the food does not stick, and so there is but little tendency to decay.

The mouth is a warm place,—nearly a hundred* degrees by the thermometer. It is never so warm in the shade in this climate. And yet in our warmest summer weather a piece of meat begins to decay in twenty-four hours. If we eat meat to-day for dinner, the little pieces which find their way between our teeth will, exposed to the heat of the mouth, begin to decompose before to-morrow noon. If these particles of food are left between our teeth, and allowed to decompose, ought we to be surprised that the teeth and

gums should suffer? I am rather astonished that they do not take on disease even earlier.

Now a tooth-brush will not go between the teeth, (especially the double teeth, where the decay begins the earliest,) and remove those bits of food. *The tooth-pick is the great preserver* of our teeth. The brush helps the teeth to look white, but *the* means of preservation must be something which goes between the teeth, and removes the particles of food which find their way there when we eat.

Details.—1st. On rising from the table use a goose-quill tooth-pick thoroughly, and, if practicable, rinse the mouth, so as to remove such particles as the tooth-pick may have left behind.

2nd. On lying down at night use a tooth-brush, broad and soft, with pulverized soap and prepared chalk. Do the same thing on rising in the morning.

3rd. As often as you discover any tartar about the necks of your teeth go to a dentist, have the tartar carefully and thoroughly removed, and then scour away with your brush and the above dentrifice, which, by the way, the nearest druggist will prepare for you.

Parents see that your children attend to their teeth. How they will mourn over their loss. Ah, what would I not give to restore some which I lost before I knew what I am telling you!

So complete is the protection afforded by cleanliness that a cavity in a tooth if excavated and kept clean will not decay any further. I once knew a young lady whose front teeth were badly decayed. Two or three of them were mere shells. Coming into possession of a fortune, her friends urged attention to teeth as befitting her new surroundings. She had a particular dislike of small points and masses of gold shining out when she spoke or laughed. She came to consult me, and I advised the thorough removal of the decayed matter by a dentist, and the use of a syringe with warm water after each meal to keep the cavities clean. It was more than twenty years ago that this young woman's teeth were excavated by the dentist. She has kept those cavities clean. I cannot see that in these years the teeth are changed. I never saw gold plugging preserve the teeth so perfectly. I firmly believe if the teeth were skinned—deprived of their enamel, and were kept perfectly clean, even the naked bone would not decay.

The dentist is a most useful member of society, and should be visited frequently with reference to the possibility of any new points of decay.

The Teeth.

Thirty years ago, when I first began to study medi-

cine, I thought, after three days' study, it was high time I should begin to practice. A girl living in my mother's family was attacked with a severe toothache, and, of course, applied to the new doctor. The doctor examined the case very critically, and decided, after the gravest thought, that it was a case of pain in a tooth, and at length came to the conclusion that said tooth must be extracted. In no other way, with all his experience, could he promise to relieve the patient. The maternal head of the household was called in consultation, and was rather disposed to favor pulling the tooth instead of extracting it. But the doctor was firm in his conviction, basing his opinion on the results of the thousands of similar cases which had fallen under his observation. The doctor had not at that time ever seen a tooth extracted, and so practiced, on the way from the office, on the end of his thumb with the hook of the turnkey, so as to learn just how to seize upon the tooth, and thus fully to prepare himself to meet, with unfaltering courage and coolness, this trying emergency in his professional experience.

The offending tooth was the one immediately behind the eye-tooth. In my trepidation I allowed the hook to touch the eye-tooth as well, and drew them both out, the eye-tooth being entirely sound. Immediately, and without any definite notion of what I was

doing, I replaced the eye-tooth in its socket. Having recovered from the hand-trembling and excitement incident to my acute sympathy with the deceased, or rather with my suffering patient, I at once saw that it was very important that she should keep her tongue away from this eye-tooth, so I suggested the chances of a gold tooth in the emptied socket, and urged the importance of keeping everything away from that part of her mouth. The eye-tooth stuck in its place and remained, serving faithfully many years.

There is a gentleman now living in New York City, who has three beautiful front teeth, which he purchased from the mouth of an Irishman. His own decayed teeth were removed, and instantly Patrick's were transferred. In the case of two of these teeth the success was complete, and even the third one the gentleman retains, though it is loose and seems to have no vital connection with his jaw.

Not unfrequently the teeth of young animals have been quickly transferred from their sockets to the pared comb of a cock, and a nutritive circulation established.

I used to know a young lady who had a decayed front tooth. It was so exceedingly sensitive that she thought it impossible to have those sharp-pointed dental instruments thrust into the cavity, and, indeed,

almost went into hysterics upon attempting an excavation. At length, she was advised, as the process of destruction was going forward, and she must soon lose the tooth, to be etherized and have the tooth extracted, and instantly returned to its place. Of course we all know now that there was a much simpler plan for destroying the nervous sensibility, but in this case the extraction was accomplished, and the tooth immediately replaced. The circulation was re-established, and in a few weeks the tooth was so firmly fastened in its socket, that it bore the necessary force in plugging, and has remained, a good tooth, for many years.

If it were practicable to determine the exact form of the portion enclosed in the socket, by an examination of the protruding part of a tooth, I have little doubt that it might become very common to transfer teeth from one mouth to another. Precious as our teeth are, many persons could be found who, for a consideration, would part with the most beautiful ones.

The introduction of rubber instead of gold for plates, for artificial teeth, is a great improvement. A good honest dentist, and I think there are a great many such, will furnish very good substitutes for the natural teeth, if you will give him a commission to spend as much time as he finds necessary in making them.

Mastication.

The masticating apparatus occupies a great variety of position in different animals. In some fishes it is in the mouth, in some it is in the pharynx, in others in the œsophagus, and again, in others, in the stomach.

Birds have no teeth, their gizzards do the grinding. This gizzard has thick, strong walls lined with a very hard membrane. It has the power of crushing the densest substances. In addition, some birds are in the habit of swallowing gravel stones, which assist in grinding the food. The ostrich swallows pieces of iron, glass, etc., without any subsequent suffering. Needles, lances and other very sharp steel instruments have been introduced into the gizzards of birds, and upon subsequent examination, their sharp edges have been found removed.

Cud-chewing animals have broad, flat teeth, which they keep going constantly, to prepare their coarse food for that wonderful change into beef and mutton.

See that ox chewing his cud. How comically wide the grinding movement. It looks as though the jaw were dislocated every time. Now see a dog eating a piece of an ox! What a funny chopping-knife motion, —no grinding at all.

Only One Stomach.

One reason for the marked constitutional disturbance which comes of stomach-trouble is, that we have only *one* stomach, and when that fails the whole body must fail. Now one lung may fail and the other go on well. I have known many such cases. A former patient of mine, now residing in Washington, has not taken a breath into his right lung in many years, and yet in an important public position he works better than the average. Of course his body is not vigorous, for his breathing is insufficient, still he is a comfortable, healthy man and is doing good service.

The brain is in two halves; one may retire from active service and the other go on.

We have two legs, two arms, two eyes. We may lose one and not get off the track.

But we have only one stomach, and if that gets off the track the whole man is knocked into a heap.

My old school-fellow, Charlie Brigham, lost his right arm in a woolen mill. The suffering was great, the consciousness that he could no longer follow his trade must have pressed him hard, but he was cheerful and brave until, lying in bed, he had an attack of indigestion, and then he became almost wild with grief and despair over the loss of his arm.

How We Digest.

To make the process of digestion simple, let me say that it begins in the mouth and ends in the lungs. A man swallows a mouthful of bread. We follow it from his mouth, down through the œsophagus to his stomach. It now, by a peculiar motion of the muscles of the stomach, is moved about in the stomach, and, as it touches here and there, gastric juice starts out, like sweat upon the forehead, and wets the bread.

After a couple of hours of revolving about within the stomach, the bread is changed into something which looks like buttermilk. This is chyme. Now, the gate at the right end of the stomach opens and lets this chyme pass through into the first part of the intestine. There, two new liquids are poured in, one from the liver,—the bile,—the other from the pancreas,—the pancreatic juice. These induce certain changes in the liquid bread which make it resemble milk. Now it is known as chyle. Innumerable little mouths, which open within the intestine, suck up this milk or chyle, carry it to a small canal—the thoracic duct—which lies upon the backbone, and through this canal it runs up to the upper part of the chest and is poured into a large vein just under the left collar bone. Through this vein it reaches the right side of the heart;

and is then forced into the lungs, where it comes in contact with the air. Now a wonderful change comes over it. This is produced by the addition of oxygen to the milk-like fluid. For a given quantity of this chyle a still larger quantity of oxygen is added, and the compound which comes of this union between the bread and the oxygen is the nutriment which supplies the wants of the system. What takes place in the lungs is more important than anything that precedes it, in the process of digestion.

For example, a man may live upon fried salt pork, hot saleratus biscuit and strong green tea (I don't know of a worse dose), if he live on the western plains and breathe pure air, he will have a purer blood, a finer, healthier skin, and will be freer from humors than another man who lives upon the choicest grains and fruits, but who constantly breathes the air of a close, furnace-heated house. In other words, we may truly say, that, in considering the great function of digestion, the lungs really play a more important part than the stomach itself.

It is really vital that the first and the last step in digestion should be well done. First, *chew* well, and last, *breathe* well. If these two duties are well performed, a substantial contribution will be made to our welfare.

DIFFERENT THEORIES OF DIGESTION.

Hippocrates thought digestion was a process of *stewing*, and for a long time after him, it was regarded as a *cooking*, effected by the heat of the stomach.

Again, among the old physiologists digestion was considered a *fermentation*. They referred to the gas frequently escaping from the stomach as proof.

Next, digestion was believed to be a *putrefaction*.

Another set of physiologists imagined that *trituration* accounted for everything. They pointed to the gizzard of the fowl. There, said they, you see the process of digestion in its most perfect form, and in the human stomach, we find various sets of muscles to churn or triturate the food.

The next theory of digestion was the *chemical*. This school of physiologists maintained that the juices of the stomach dissolved the food *chemically*, and that if the stomach juices be pumped out, and mixed with food, precisely the same changes will take place without, as within, the stomach. While this statement is not correct, there is much truth in the chemical theory of digestion. It was the longest stride, yet made, toward the light, in the pursuit of this important physiological problem.

It is perhaps not altogether modest, that we, although occupying a higher point in the progress of this investigation, should declare that we know all, but there cannot be a shadow of doubt that the present theory of digestion, is the true and final one.

True Theory of Digestion.

Digestion is a vital process, to which chemical and mechanical forces contribute.

While the motion of the walls of the stomach, is necessary, to mingle its contents, and while the chemical solvency of the gastric juice is indispensable, both of these combined, cannot produce the true *chyme*. That *chyme*, into which every kind of food is transformed, can be produced nowhere outside of the stomach. In this respect *chyme* is like other products of the body. We may learn all the constituents of the *saliva*, or the *bile*, we can produce neither of them outside of the body. That mysterious force which we call *vital*, is the force, which determines all. Chemistry and mechanics play their part, but the all-determining, guiding and controlling power is the *life principle*.

Our Ignorance of the Vital Force.

Let me illustrate. A few years ago, while delivering a lecture in a neighboring city, and while denoun-

cing that hydra-headed monster, known as *patent medicines*, a manufacturer of a famous blood purifier, interrupted me with several hard questions, spoken in a very loud and passionate manner.

FAMOUS DOCTOR. "Do you know what you are talking about, sir?"

LECTURER. "Well I confess there are some things about it, which I never could understand."

FAMOUS DOCTOR. "Well, Sir, I have given forty years to the study, the *profoundest study* of the human system, and I should like to put a few questions to you, sir, if you have no objection, sir."

LECTURER. "Speak on."

FAMOUS DOCTOR. "Will you tell me what a *fever* is?"

LECTURER. "I don't know."

FAMOUS DOCTOR. "Will you tell me what an inflammation is?"

LECTURER. "I don't know."

FAMOUS DOCTOR. "Well, can't you explain the nature of salt rheum?"

LECTURER. "I cannot."

FAMOUS DOCTOR. "One more question. Will you be kind enough to inform us, whether you can explain the philosophy of any kind of disease, whatever, —the simplest thing you can think of—say a slight headache?"

LECTURER. "I have to confess, that I cannot?"

FAMOUS DOCTOR. "Well, that's all I want to know ; and now I will take my family and go home ; and I advise my friends and neighbors to go home too, and read the story of the babes in the woods ; they will find that a good deal more scientific and instructive than this lecture."

That world-renowned manufacturer of a medicine, "which by cleansing the blood of all impurities, eradicates every vestige of disease from the entire organism," grandly rose and bolted.

I went on to make a clean breast of it, to such as chose to remain, for a very considerable number bolted with the manufacturer.

LECTURER. "Friends, the doctor did not half sound the depths of my ignorance. I not only, do not understand the nature or philosophy of any disease whatever, but I really know nothing of the nature of the vital principle, in its simple or natural manifestations, saying nothing of it, when it is complicated by disease. But worse than this, I know nothing of the philosophy of health or disease in a blade of grass, even, nor in one little cell in that little blade of grass.

In truth, I must confess, for myself, that I have always been sitting before the curtain. Never have I been permitted a single peep behind it into that secret

green-room where nature manipulates the ropes, wires, and springs which she employs in producing the great drama of *life*.

I think this strange, arrogant determination to know *all*, in physiology, has proved a fatal obstacle to progress in these studies.

He who will humbly sit at the feet of nature, may learn all that is important he should know. The Good Father has hidden nothing beyond our finding, which is essential to our welfare and happiness.

But *life*, which is probably identical with God, Himself, is not for our mortal ken.

We return to the subject under discussion. While no mortal will ever comprehend the *vital* force, while the *philosophy* of digestion must, in its *essence*, remain among the hidden things, all that need be known about the conditions on which this great, pivotal function of our earthly life may be maintained at its highest, is quite within reach of the earnest inquirer.

Another Famous Doctor.

This great "*blood purifier*" reminds me of a famous Thompsonian doctor, from whom I heard a lecture in this city, nearly thirty years ago. A number of us—students in the medical department of Harvard—hearing that the Thompsonian system was to be elucidated

by a very distinguished representative of the school, attended, and we heard, among many wonderful things, something like the following :—

"And, now, do you know how mercury produces rheumatiz? I will tell you exactly, how mercury produces rheumatiz. You see, mercury has a great many sharp pints, and them sharp pints git stuck in the flesh, and when the muscles rub over them sharp pints, it scratches, and that is the rheumatiz!"

And when he came to lobelia he astonished us with bursts of eloquence. Among many tremendous hits, I remember this one :—

"Ladies and gentlemen, I have studied lobely! I have spent years in studyin' how it operates on the system; I have sot up all night more than a thousand times, reflectin' on it. And now I will tell you how it is lobely works on the system. The first dose *stirs up the morbid anatomy*, the second dose *scrapes up the morbid anatomy*, and the third dose *heaves out the morbid anatomy*. Ladies and gentlemen, that's the way that lobely does it. Ladies and gentlemen, I stand here to declare *let no man undertake to treat disease*, till he has made the whole system, in all its secret recesses, the subject of day and night study for a life-time, and that's just what I have done. When I meet a case, I just set right down and take the case right into my

mind, and there I hold it, till I see all through it, ef it takes me a month; I have frequently had a hard case, on my mind more'n six months, before I could see through it in all its pints."

These are the doctors that see through the whole thing in all "its pints." Let us stop putting on airs and frankly acknowledge that not only are we utterly ignorant of the *life* principle, but that the essence of every *force*, is absolutely hidden from us.

Look at this simple pebble. What holds it together? Why does it not fall to pieces? Why, you say, that is attraction of cohesion, to be sure! Yes, but what is attraction of cohesion?

Not only is *life* in the vegetable or animal, whether in health or disease, an inscrutable mystery to us, but the laws which preside over inorganic matter, are likewise entirely out of our reach.

Let us modestly study such facts, and make such deductions as come within the range of our capacity, and leave it to such distinguished and magnificent greatness as the above to dive into the profoundest depths of the mysteries of the Creator, to fully comprehend the most "secret pints."

Local Diseases.

The following two pages are from my work "Weak Lungs and How to Make Them Strong."

A salt rheum appears on the hand. An ignorant doctor says, "It is a disease of the skin." An ointment is applied. The eruption disappears.

An ulcer appears on the ankle. The doctor says, "Is is a disease of the ankle." He applies a salve. The sore disappears.

The ear discharges. "The membranes of the ear passage are diseased," says the physician, and he prescribes an injection. The discharge is arrested.

A case of nasal catarrh is presented. The medical man says, "this nose is sick." A snuff is prescribed. The discharge ceases.

In each of these cases the doctor has entirely misapprehended the seat of the malady. Of course his prescription is a blunder.

Salt rheum is not a disease of the skin. It is a disease of the system, showing itself in the skin. The ulcer is not a disease of the ankle. It is a disease of the system, showing itself at the ankle.

A ship's crew is seized with some fearful malady. They hang out a flag of distress. Another ship passes near the infected vessel. Its captain discovers the flag

of distress. A boat's crew is sent to cut it down. The captain turns to his passengers with the triumphant exclamation, "We have saved them! All signs of distress have disappeared!"

A human body is diseased in every part. A flag of distress is hung out in the form of an ulcer at the ankle. Some ignorant physician sees it. He covers it with a salve, which compels it to close. Then he cries, "See, it is all gone!"

The ulcer upon the ankle is driven from that place by an ointment. Soon it appears in the lungs. The doctor cannot get at it there, with his ointment, and resorts to inhalation. He is still determined to apply the drug to the local manifestation.

Pulmonary consumption is not a disease of the lungs. It first pervades every part of every tissue of the entire organism. At length it assumes local expression in the lungs. How utterly blind to apply a drug to the ulcer, either when it is on the ankle, or in the lungs; to dry it up, or drive it away, while the real disease is left in the system.

How infinitely more sensible, with sunshine, fresh air, bathing, nutritious food, cheerful society, and wisely-directed exercise, to remove the systemic morbid conditions.

SYMPATHY BETWEEN THE STOMACH AND OTHER PARTS OF THE SYSTEM.

There is a wonderful sympathy between the stomach and all other parts of the body. But that between the stomach and brain is so active and perfect, that the acutest physician is often greatly puzzled, in trying to decide, when one is sick, whether *it*, or the other, is really to blame. Nothing is more common, for example, than to meet a long-standing case of dyspepsia, in which the prominent and almost the only symptom is a dull and fretting headache. While, as shown in another place, persons have suffered many years from what they believed to be a grave organic disease of the stomach, pointing to their stomachs on their death-beds and saying, "you will find my stomach one mass of cancer"; but when the curious medical man makes an examination, he finds a healthy stomach, better than the average, because of an abstemious diet; but in the brain he may come upon evidence of long-standing and serious disease.

The sympathy between the brain and stomach is so complete that an experienced physician never examines a case of disease, of one of these organs, without making the other one, likewise, the subject of study.

Influence of Dyspepsia on the Mind.

In connection with the above, I recall many curious conversations with dyspeptics. No matter how recent the attack, they generally fancy themselves very, *very* ill. The following is a sample office scene:—

DYSPEPTIC. “Doctor, I want to consult you about my health.” (A very solemn face and a whining voice.) “I am really alarmed, for I have just found out that I have the heart disease.”

DOCTOR. “How long have you had this heart disease?”

DYSPEPTIC. “It has been gradually coming on; but I have not felt it seriously till about a week ago. Doctor, do you really think there is danger of my falling down dead? I was afraid, in coming up stairs just now, that I might fall down a dead man. Oh, dear me, what will my poor wife do. My dear Doctor, I ought to have \$10,000 more in some good company. But then, it is too late now, they wouldn't take me, unless 'twas in some of those humbug companies. Why can't men attend to such things in season?”

DOCTOR. “Please take off your coat and vest, and let me examine your heart.” (Doctor listens for some time.) “Now tell me just how it feels.”

DYSPEPTIC. “Why, sir, there is a pain, and a

sinking, and then I feel as if my heart would jump out of my mouth. I can't tell you what an awful sensation it is, really."

DOCTOR. "There is nothing whatever the matter with your heart, beyond a little sympathy with a deranged stomach. If you will omit your coffee, and go without your supper, in a week you will get over this dreadful, fatal disease of the heart, and then it won't come on again, if you will only eat and drink as you should."

DYSPEPTIC. "Do you mean to say that with all these terrible symptoms of the heart, there is nothing the matter with it? Doctor, you must excuse me, but I can't believe it."

DOCTOR. "I will give you my head for a football if all these terrible symptoms do not disappear entirely within five days, with the slight change in your table habits which I have suggested. There, now, behave yourself, and your fatal disease will leave you at once."

The Consumptive Patient.

In this connection, it will prove interesting to listen for a moment to the consumptive.

While the dyspeptic fancies he is *fearfully* sick, and is determined to die, the consumptive, who may be

really and seriously ill, who may have extensive destruction of the lung, which will end in the grave, is almost sure to be cheerful and hopeful. The following is common :—

CONSUMPTIVE. “ Perhaps, Doctor, you had better listen at my chest a little. The fact is I was never better in my life, but my wife is always in a worry about something, you know, and she has got into her silly head that I have some little trouble here ; so I reckon you had better make a little examination, just enough to satisfy her, you know.”

DOCTOR. “ Well, you must strip your chest so as to give me a good chance.” After listening, the doctor says, “ You have incurable consumption. I find a mass of tubercle there, and here, and can only say that by no treatment can you be restored. Let me count your pulse. * * * Yes, that tells the same story.”

CONSUMPTIVE. “ But, Doctor, now, really, you don't mean to say that I have consumption ? ”

DOCTOR. “ Yes, my dear fellow, there is not a shadow of doubt about it.”

CONSUMPTIVE. “ Upon my word, I shouldn't have dreamed of it ; and you mustn't be offended, but I really can't believe it.”

Despair is a common symptom of dyspepsia, and *hope* of pulmonary consumption.

A Sick Brain the Cause of Dyspepsia.

Plutarch says in one of his essays, "Should the body sue the mind before a court of judicature for damages, it would be found that the mind would prove to have been a ruinous tenant to its landlord."

Abernethy, in discussing the causes of indigestion, says: "The state of their minds is another grand cause,—the fidgeting and discontenting themselves about what can't be helped, passions of all kinds,—malignant passions pressing upon the mind, disturb the cerebral action, and do much harm."

Dr. Parry says, "Dyspepsia may be produced by mental affections."

Abernethy says, "There is no hurt of the head that does not affect the digestion."

Dr. Abercrombie, in discussing organic diseases of the brain, says that "Symptoms which really depend upon diseases of the brain, are very apt to be referred to the stomach." Again he says: "Many other cases of organic disease of the brain are on record in which the only morbid appearances were in the head, though some of the most prominent symptoms were felt in the stomach. Some of these resembled what has been called sick headache. Others were chiefly distinguished by remarkable disturbances of the digestive functions."

Then Dr. Abercrombie adds this caution : "In cases of this class we must beware of being misled in regard to the nature of the complaint, by observing that the symptoms in the stomach are alleviated by attention to regimen, or by treatment directed to the stomach. If digestion be impeded, from whatever cause, these uneasy symptoms in the stomach may be alleviated by great attention to diet ; but no inference can be drawn from this source in regard to the cause of the derangement."

Dr. Hastings, in the Midland Medical and Surgical Register of 1813, says that not unfrequently cases occur which exhibit symptoms of disordered stomach, accompanied by increased determination of the blood to the head, alternate flushing and coldness, irregular spirits, etc. ; and he states that in all cases which terminated fatally under his care he found thickening of the membranes of the brain, and marks of chronic inflammation in the head. Dr. Hastings believes that many of the nervous symptoms of which dyspeptic persons complain ; are produced by some alteration of the membranes of the brain, in consequence of chronic inflammation.

Dr. Paris relates a case of a lady who had been unwell for several years. She referred all her sufferings to the stomach, and often said that when she was dead,

that would be found the seat of her disorder. She died rather suddenly with fever and delirium, after exposure in a very hot day; and on examining the body, no trace of disease appeared in the stomach and bowels, but the brain exhibited marks of long standing disease.

Dr. Brigham, to whose admirable work I am greatly indebted, but who I think pushes his views as to the part played by the brain in the production of dyspepsia much too far, uses the following language, which, in part at least, every observing physician will endorse:—

“The fact that dyspepsia is frequently cured by permitting the over-tasked and tired brain to rest, or by changing the mental labor or excitement, is evidence that it is primarily a disease of the head, and not of the stomach. How often do physicians fail to afford any relief by medicines in what are called stomach affections, but which are readily cured by travelling, or relaxation in accustomed studies, and freedom from care and anxiety; how often a change of the mental excitement affords relief. It seems as if certain portions of the brain having become unduly excited became diseased, and are benefitted by strong excitement of other portions of the same organ. How often are stomach affections cured by inert medicines, aided by the imagination, confidence, hope, etc.”

DR. ABERNETHY.

I desire, in this place, to say a word of JOHN ABERNETHY, the great English physician and surgeon. After having long and carefully studied his writings, and some contemporaneous testimony, it is my conviction that John Abernethy was the greatest man our profession has produced in modern times.

And the one great use of his life was the calling attention to the important relations existing, in our bodies, between the *digestive apparatus* and all other parts. Let me give a few illustrative anecdotes.

A wealthy gentleman, living some distance from London, thought, on the occasion of a visit to the city, after attending to his business, and being ready to depart, that he would call upon Dr. Abernethy. Not that he needed any medical advice, but that he might have the honor to say, when he returned home, that he had met the great Abernethy. The gentleman was a high liver, carried a red face and a somewhat gouty toe. He described his case, interrupted and cut short by a question or two, when, after a single minute's examination, Abernethy's prescription was this : "Live on sixpence a day, and earn it."

A famous Duke called upon him with reference to

an inflamed eye. My Lord, after waiting an hour for Abernethy to get through with a number of charity patients, whom he never left to attend upon the highest noblemen, began the conversation by saying :—

“ Doctor, I wish you would examine this eye ; I fear some serious mischief is at work here.”

“ If you will sit there in my patient's chair, and let me do the talking, I will soon find out what's the matter with you ”

A few sharp questions, and the Doctor concluded the interview with the following words :—

“ Your difficulty is not where you think it is, in your eye, but,” pointing his finger at the Duke's enormous stomach, “ it is there, in your kitchen. Of course, when the kitchen is out of order, the garret and all the other rooms in the house are likely to be more or less affected. Now, all you need to do, is to clear the kitchen, and the garret will require no special purification. Your lordship must do as the famous Duke of Wellington did on a well-known occasion;—cut off the supplies and the enemy will leave the citadel.”

Abernethy's “Constitutional Origin and Treatment of Local Diseases.”

I may somewhat startle my sober medical friends, by saying, that I believe Abernethy's work, “ The

Constitutional Origin and Treatment of Local Diseases," to be on the whole, the most remarkable work which the profession has produced in this century; and I will add, that this little work, with Florence Nightingale's book on nursing, would be almost a complete library for a physician, though both of them may be read in a very brief time.

I cannot let this great man go, without bearing testimony to his singular goodness. I do not recall any other great man, in the history of the medical profession, who was so constantly and consistently sympathetic and benevolent.

Dr. Abernethy at St. Bartholomew's.

The following case will serve to illustrate his relations with hospital patients, which were always singularly respectful and kind; while to the titled and wealthy, he was not unfrequently very short and crusty.

Mr. Stowe gives us the following illustration:—

"It was on his first going through the wards, after a visit to Bath, that, passing up between the rows of beds, with an immense crowd of pupils after him,—myself among the rest,—the apparition of a poor Irishman, with the scantiest shirt I ever saw, jumping out of bed, and literally throwing himself on his knees

at Abernethy's feet, presented itself. For some moments everybody was bewildered ; but the poor fellow, with all his country's eloquence, poured out such a torrent of thanks, prayers and blessings, and made such pantomimic displays of his leg, that we were not long left in doubt.

“ ‘ That's the leg, yer honor ! Glory be to God ! Yer honor's the boy to do it ! May the heavens be your bed ! Long life to yer honor ! To the divil wid the spalpeens that said yer honor would cut it off ! ’ etc.

“ The man had come into the hospital about three months before with diseased ankle, and it had been condemned at once to amputation. Something, however, induced Abernethy to try what *rest* and constitutional treatment would do for it, and with the happiest results.

“ With some difficulty the patient was got into bed, and Abernethy took the opportunity to give us a clinical lecture about diseases and their constitutional treatment.

“ And now commenced the fun. Every sentence Abernethy uttered, Pat confirmed. ‘ Thru, yer honor ; divil a lie in it. His honor's the great dochtor intirely ! ’ While, at the slightest allusion to his case, off went the bed-clothes, and up went the leg, as if he were taking aim at the ceiling with it. ‘ That's it, by

gorra ! and a better leg than the villins' that wanted to cut it off !'

"This was soon after I went to London, and I was much struck with Abernethy's manner. In the midst of the laughter, stooping down to the patient, he said, with much earnestness, 'I am glad your leg is doing well, but never kneel again, except to your Maker.'"

"I take the liberty of giving the above illustration, because my heart yearns, to bear testimony to the beautiful character, of this wonderful man.

"His sympathy, benevolence, and sense of justice joined to awaken his naturally keen observation, and philosophical reflection, in regard to the causes of human suffering. From first to last he sat down by his patient's bedside, and in a quiet, friendly, earnest way, exhorted him to so manage his eating and drinking, that the stomach should have a fair chance to furnish healthy nutriment to the weak and suffering body."

In the way of plain talk to persons who voluntarily came to him, even persons of wealth and rank, the following illustrations may prove interesting :—

An old fox-hunter abused him roundly ; but all he could say against him was : "Why, sir, almost the moment I entered the room he said, 'I see you drink a good deal.' Now," added the patient, very naively, "suppose I did, what the devil was that to him?"

A gentleman of considerable literary reputation, who did not drink, but who had a very red nose (which, I believe, almost never exists, except as a reflection of an inflamed stomach), was very angry with Abernethy, because as soon as he entered his consultation office, and said that his stomach was out of order, Abernethy replied, "Ah! I see that by your nose."

Again, a patient said, "I have something the matter, sir, with this arm. There, oh! (making a particular motion with the limb,) that, sir, gives me great pain." "Well, what a fool you must be to do it, then," said Abernethy.

Once, in a lecture, a student was inattentive, and engaged in conversation with another student. Addressing him in a tone of great severity, he said: "If the lecture, sir, is not interesting to you, I shall beg you to walk out."

A Colonel in the army consulted him.

ABERNETHY. "Show me your tongue. Ah! that is bad enough."

COLONEL. "You are quite right there."

ABERNETHY. "Well, man, I don't require to be told that."

Dr. Abernethy's great service to the profession, and to the human race, was in his concentrating his noble genius, his remarkable, overwhelming influence, upon

the intimate relations between the digestive organs and all other parts of the human body. Perhaps no other man, in the history of the world, has contributed so much to table temperance as John Abernethy. "Honest John," as his contemporaries delighted to call him, will figure largely in medical history for many centuries.

Abernethy taught us that the *general* or *constitutional* is everything, the *local*, *nothing*, with this well understood principle, that recovery from mechanical injuries turns upon the constitutional vigor, more than upon the nature or extent of the mechanical injury.

Cases from Abernethy's Practice.

The subjoined cases from Abernethy's practice occupy considerable space, but the thoughtful reader will not regret it. I could easily give from my own practice cases, illustrating the dependence of local diseases (in different parts of the body,) upon faults in the digestive apparatus. Indeed, I could fill a dozen such volumes with these cases, but I prefer to give some illustrations from our great author.

My object in giving these cases, and this somewhat extended argument, is to convince the reader, that no matter where, or what his pain or malady may be, he must not, in looking for the cause, overlook the diges-

tive apparatus. If I succeed in fixing this in his mind, I shall have performed for him the most important service.

He gives the case of a young lady, who had what was supposed to be an affection of the lower portion of the spine. She had great pain in the loins, and, at last was scarcely able to walk. Her lower extremities seemed gradually falling into paralysis. Dr. Abernethy found that her general health was bad. Believing that there was no disease of the spine, but that upon the restoration of her general health, the local symptoms would give way, she was sent into the country, where she at once became better, and finally well.

He gives the case of a patient who died, after having suffered a long while with what was supposed to be disease of the bones about the hip joint. These sufferings were traced to one point. This was blistered severely, and received the attention of the medical men until her death; then the bone, upon examination, to everybody's astonishment, was found to be perfectly healthy, but a portion of the digestive apparatus, which had never suffered, was seriously diseased.

Another young lady had been confined for six months to her chamber, on account of pain in the loins, and such weakness in the lower extremities as prevented her from walking or standing. This weakness of her limbs had been gradually increasing for a year and a half, and, at length, became so bad as to render her incapable of moving about. Issues had been kept open in the neighborhood of the supposed disease, near the lower part of the spine. At length, her case came under Dr. Abernethy's observation. He found "her tongue furred, appetite deficient, digestion bad, bowels costive, and stools black, or else untinged with bile." He at once advised a discontinuance of the issues, and directed his attention to the stomach and liver. Abernethy, in concluding this case, says: "The gentlemen who attended this patient met me accidentally two months after, and informed me that she was quite well. I said that as her disease had been a long

time in forming, it could hardly be expected that she should recover so suddenly. He considered this expression as implying some doubt of his accuracy, and therefore sent the patient to me in the morning. She came from Lambeth in a hackney coach, and looked very well. She observed that long before her sickness she could not have borne the agitation of a carriage, but that now she did not feel it."

Thomas Creighton, aged twenty-three, was a patient at St. Bartholomew's Hospital, under Abernethy's care. His malady was a palsy of the limbs. For sometime before this malady appeared, he was attacked with violent pain in the bowels, preceded by costiveness and other evidences of derangement of the digestive apparatus. At length, his eyes began to twitch, he became uncertain in walking, and, finally, was rendered incapable of taking any exercise. Beside, he had confusion of vision, and a violent pain in the head. At length, he could discern no object distinctly. A candle, for example, appeared as large as the moon. Then he began to lose the use of his arms. His speech also became impaired. When he was admitted to the hospital, there was no voluntary motion of the legs, and but little of the arms; the bowels were deranged, headache constant, speech and vision very imperfect. Abernethy came to the conclusion that the disease was one of the digestive apparatus, and in accordance with the practice of the times, ordered two grains of calomel, with eight of rhubarb, to be taken twice a week, and some infusion of gentian with senna occasionally. In three weeks the bowels became regular and the appetite good. Now he could move his hands and arms nearly as well as ever; his sight so much improved that he could read a newspaper; the functions of the bladder, which had been lost, were completely restored; his speech became articulate, and his general health much improved. Dr. Abernethy could not report the final result in his case, as the patient's friends suddenly removed him, on account of a quarrel with the nurses, and he could not learn where they had conveyed him.

Elizabeth Griffin was a patient at St. Bartholomew's, on

account of paralysis of her legs, which was supposed to originate from a disease of the spine. Her voice was much affected, and she had a sort of epilepsy. Abernethy observed that her tongue was extremely and constantly white, bowels costive, and other derangements of the chylopoetic (chyle making) apparatus. The patient remained some weeks, was attacked with fever and died. A post-mortem examination failed to discover any evidence of disease in the spine or brain; in fact, no disease anywhere except in the intestines. In the lower part of the small intestine numerous ulcers were found, and besides, the interior coat of the large intestine appeared inflamed. On examining the liver, the gall bladder was found to contain, instead of bile, a light green serous fluid, which had not the soapy feel of bile.

Injuries of the Head Aggravated by Bad Digestion.

In regard to another class of cases, Abernethy remarks that he had constant occasion to observe that disorders of the head produced by blows, were kept up and aggravated by affections of the digestive apparatus.

He gives an interesting case of a boy ten years old, who fell out of a window, and struck the back part of his head against some stones. He soon recovered, and six weeks afterwards caught the scarlet fever, and recovered from that also. But while convalescent from the scarlet fever, the pains returned in the back of the head with so much violence as to induce the belief that some serious local mischief would ensue. Abernethy found no fluid under the scalp, nor any inequality in the surface of the bones, though his comatose state suggested pressure upon the brain. The case looked very alarming. His bowels were costive, and his stools were of a blackish color. He was ordered small doses of calomel, and drafts with rhubarb and kali vitriolatum in the morning. His tongue soon became clean, appetite and spirits returned, and he had no longer any unpleasant feeling about the head.

A lady fell down upon a sidewalk, and struck the back part of her head upon a stone; but she soon recovered from the fall, and had no severe symptoms for several weeks. Afterwards, the same parts which had been struck became extremely painful, and the pain extended over the scalp to the right eye, the sight of which became imperfect. The integuments of the back part of the head were so tender that she became faint when they were examined. After three months, the patient was brought to London by her friends, all fully satisfied that the operation of *trephining* must be performed. Abernethy says, when he saw her, "she tottered in moving from one chair to another, replied to questions with hesitation and effort, eye-sight very much affected, constantly feared loss of senses, bowels costive, tongue furred, stools of a dark color." When our good Doctor told the lady that it was his opinion her symptoms were a mere local expression of some fault in her general health, she gave not the least credit to his opinion, but was persuaded that the bone was fractured. He treated her for derangement of stomach and liver, and found that on the second day there was but little pain in the head, that she could walk more steadily, and could read a newspaper. But the patient was still persuaded that the bone was injured, and still apprehensive that without some operation she would ultimately lose her senses. She continued under the treatment which had reference to the condition of her digestive apparatus, returned to her home in the country, and was at last obliged to give up the belief that her skull had been fractured.

Still farther on, in Abernethy's work, we have an account of a laboring man, forty-five years of age, who fell from a considerable height, and was immediately brought to St. Bartholomew's. They could discover no fracture of the skull. The patient seemed to labor under the effects of violent concussion of the brain. By bleeding and cathartics he soon recovered his senses. Everything went well for three days, when he was attacked with "shivering, nausea, pain in the head, impatience of light," and other symptoms which are

considered as denoting inflammation of the membranes of the brain. In the evening he had most excruciating pain in the head, which was succeeded by convulsions so violent that three men could scarcely hold him. Calomel and rhubarb were given. The next morning he had a return of the pain and convulsions, and the symptoms were very violent, so much so that he was bled four times during the day. Three days afterwards, the "breath was extremely offensive, skin hot and dry, pulse quick, tongue thickly furred, and great tenderness in the region of the stomach and bowels." Two grains of calomel were given, followed by a dose of salts. Soon the bowels became regular, movements healthy, tenderness of the abdomen removed, tongue became clean, had no return of the convulsions, pain and other symptoms subsided, and when the digestive organs had been restored to a natural state, he went out of the hospital perfectly well.

Indurations, Abscesses and Sores.

Dr. Abernethy's chapter devoted to the constitutional origin and treatment of this class of affections is exceedingly interesting and convincing. A medical gentleman consulted Abernethy about the case of a lady, who had been long subject to dyspepsia and severe headaches; but the complaint with which she was then most suffering, was rigidity and induration of the calves of the legs. Extensive and alarming supuration was threatened. He saw the patient first about six weeks after she had been obliged to keep her bed entirely. He at once referred this painful local affection to the state of her general health. He found her appetite and digestion were seriously impaired, tongue much furred, and the *faeces* black. He entered at once upon a course of simple treatment of the stomach and liver, and found that the affection of the legs disappeared exactly in proportion to the disappearance of the stomach derangement; and when, at length, the tongue became clean, the appetite returned, digestion went on well, the induration rapidly disappeared, and in two

months the patient could walk as well as before her complaint.

Abernethy affirms, under the head of carbuncle and scrofula, that his observations have enabled him to determine that a certain state of the digestive organs always precedes and accompanies the course of a carbuncle. The cases he gives illustrating this are numerous.

Under the head of diseases of various glands, he gives several interesting cases of diseases of the female breast, which were supposed to be malignant, but which gave way entirely upon the removal of certain morbid conditions of the digestive apparatus.

He gives, likewise, a case of stricture of the œsophagus, which at last produced entire inability of swallowing, but which was cured by the removal of a stomach derangement. He discusses, in a very satisfactory way, the connection between many affections of the nose and diseases of the stomach. Likewise, the intimate dependence of even grave affections of the eye upon morbid conditions of the stomach.

Sprained Ankle. I have often seen cases of sprained ankle, which, to a superficial observer, seemed unaccountable in their obstinacy.

Mrs. B., a distant relative of mine, sprained her ankle slightly while walking in her garden. She complained for the moment, but soon forgot it in conversation with her friends, and thought nothing of it for several days. Then she began to observe that it was stiff and lame upon long walking or standing. In two weeks it was so troublesome she asked me to see it. I prescribed the usual hydropathic applications, and afterwards certain stimulating liniments, and all

the while urged attention to her stomach, which had not been in good condition for several years. Soon after she removed to Illinois. I learned that she grew more and more lame, until she was obliged to walk with crutches. She became exceedingly emaciated and gradually declined, with no other urgent symptoms except those connected with her ankle, and she finally died. Had the same accident happened to a person of good constitution, she would have suffered a little pain for the moment, perhaps some soreness the next day, and then would have forgotten it.

Wounds in the Crimean War.

The history of the Crimean war furnishes striking illustrations of the dependence of the local upon the general. The English surgeons constantly observed that the wounded Russians, who fell into their hands, recovered from wounds, that almost uniformly killed Englishmen. It was not an unusual thing for a Russian, with a minnie-ball through his chest, to get well. There were thirteen such men captured on a single day, all with great holes through their lungs from minnie-balls. Of this number eight recovered.

If the thirteen men had been Englishmen, the chances are fifty to one, that they would all have died.

Why this remarkable difference? The answer is in

everybody's mouth,—because the Russian has more *constitutional* vigor.

One man gets a slight fall on the sidewalk ; it kills him. Another man falls from the roof of a five-story building ; it does not kill him.

A beer-drinking English porter about the warehouses of London or Liverpool, although tremendous in appearance, has so destroyed his constitutional force by beer drinking, that a slight abrasion of the skin may kill him.

I once knew an inebriate, who had possessed, during his long life, a remarkably vigorous constitution, but who, by excessive whiskey drinking, had, at length, so destroyed his power of resistance, that a very slight injury upon one of his knuckles produced an erysipelas which killed him.

Two brothers, men of about forty, residing in New York, were builders. One had good habits, which were forced upon him in younger life, by a scrofulous taint. The other, who had taken after his father, and had a remarkably elastic body, had indulged in gross intemperance. The two were engaged upon a building. The one with good habits was upon a scaffold at the fifth story ; the other upon a scaffold at the first story. The upper scaffold gave way, fell, struck the one below, and they both came to the ground. Charles,

who fell from aloft, came down sixty feet, and struck upon a pile of brick. Lawrence, who was upon the lower scaffold, fell only thirteen feet, and struck upon the same pile of brick. The one who fell from above had an arm so mangled that it had to be amputated at the shoulder, while one of his legs was broken in three places. In less than six months, with a good leg and an artificial arm, he was as busy and successful as ever. Lawrence received only a slight bruise upon one hip, and a contusion of the cheek, and was able to get up at once, and help carry his wounded, and, as was feared, *dying* brother to the house; but in four days Lawrence was a dead man. A malignant erysipelas attacked his face, and quickly carried him off.

I dare not tell you, my dear reader, how important I think it is, that you should fully take in this idea — that the *general* is *everything*, the *local*, *nothing*. Never till you comprehend this, can you even make a fair start, in these health investigations. And never will you be ready to make the expenditures, which the duties of life involve, till you fully comprehend the importance of large deposits, in the bank of constitutional health. Rich here, you are rich indeed. But if you keep no funds in this institution, you are so poor, that you may well envy the poorest laborer who can digest his food.

FOOD.

Food is generally divided into three classes ; *carbonates*, *nitrates* and *phosphates*. The *carbonates* are those foods in which *carbon* is the important element, the *nitrates* are those in which *nitrogen* is the important element, and the *phosphates* are those in which *phosphorus* is the important element.

The carbonates furnish fat and fuel, the nitrates feed the muscles, and the phosphates feed the brain and bones.

Persons fed too much upon carbonates may be warm and fat, but will lack muscle and nerve ; those fed too much upon nitrates will possess great muscles, but will lack fat and nerve ; those fed too much upon phosphates will have wide-awake brains, but will lack muscle and fat.

If these leading elements in human food were not generally intermingled with each other, and it were possible for each to fulfil its purpose in the absence of the other, it would be possible to develop three distinct physiological classes of men : 1st. A warm and fat one ; 2nd. One with large muscles ; 3rd. One with large brains and nerves.

Let us draw an ideal picture of the three classes.

1st. The man fed on carbonates would be a white, greasy, sleepy lump.

2nd. The man fed on nitrates would possess immense muscles sticking out sharply in all directions, with no fat to fill up the spaces between them. He would lack warmth, and possess little power of thought.

3rd. The man fed on phosphates would possess an immense brain, and intense will-power, but the muscles would be soft, and the whole body emaciated and cold.

But, as before remarked, these various elements are intermingled more or less in the same articles of food.

Nevertheless, there are articles of food, and even large classes of foods, which abound in one, and which possess a very small percentage of the others. So certain articles of food contribute principally to plumpness and warmth; others leave the body thin and cold, but give large muscles; others still tend to develop the brain and nerve, and feed but imperfectly the muscles and fat.

Upon this division the modern scientific classification of human foods is based.

It is quite as easy to correct a physical deficiency in our bones, brain, or nerves, in the temperature, or the

amount of fat, as it is to redeem the non-productive lands of our farms, by introducing the deficient elements.

Wheat.

Wheat contains, of the carbonates, or heat and fat producers, sixty-nine per cent. ; of the nitrates, or muscle-makers, fourteen per cent. ; of the phosphates, or food for brain and bones, two per cent. The proportions constitute for a temperate climate, and with a moderate degree of exercise, a model food. So if wheat were eaten in its natural condition, without bolting, it would supply all the needed elements in the human body, and would sustain life for an indefinite period. But, in the process of bolting, a large proportion of the nitrates and phosphates is removed, so that bread made of superfine flour will sustain life only a few weeks.

Perhaps the most palatable way in which wheat can be eaten is when boiled whole, and used with a little cream. For myself, I have never eaten any food so sweet and satisfactory to the palate as boiled wheat. When visiting some friends, in Georgetown, Ky., many years ago, I was invited to dine with Prof. Thomas of the college located in that city. Mrs. Thomas served, as a dessert, boiled wheat with cream

and sugar. At that time I had never eaten it. The company, which was a large one, unanimously voted that they had never eaten a dessert so delicious. I have tried it many times since, and am always surprised that an article of food so cheap, so easily prepared, and every way so desirable, should not find general favor.

A man may perform hard labor on wheat and water for years; but give him as much superfine flour bread as he can eat, and add, if you please, butter and sugar, he will starve to death in a short time.

Several of the menageries have starved their bread-eating animals to death by feeding them on white bread. If they had fed them upon boiled wheat, and occasionally upon wheat without grinding or cooking, they would have flourished.

Cracked wheat, or a flour made of wheat ground without bolting, is, likewise, very grateful and healthful.

"The ordinary process of making superfine white flour results in the loss of the most nutritious portion of the wheat. Under the microscope a grain of wheat divides into three principal layers—the hull, or bran proper, which is not nutritious; the gluten, which lies next within the hull, and which is the most nutritious part of the grain; and the starch, from which the or-

dinary wheat flour is made. Usually the gluten is removed with the bran in the ordinary process. A mode of preparing wheat and other grain for grinding into flour has been invented in Basel, Switzerland, the object of which is to retain in the white flour the nutritive properties which have heretofore been lost by the separation of the bran. This process, invented by Herr E. Weiss, of Switzerland, has been received with favor by scientific and practical men of Europe. It consists simply in moistening the wheat before grinding in a solution of caustic soda in water, 140 pounds of the liquid being required for 2000 pounds of grain. The solution is prepared by dissolving six and two-thirds pounds of caustic soda in 133 pounds of water. The steeping, which occupies from fifteen to twenty minutes, can be done in vats similar to those used by brewers. The caustic solution loosens the hull, so that it may be removed by the slightest friction, leaving the gluten with the body of the grain. The flour thus prepared is as white as the present superfine, and contains all the highly nutritive properties of the Graham and bran breads."

Superfine Flour.

Superfine flour, which is made of the inside or starch of the wheat, constitutes, with butter and sugar,

a very large portion of our food ; but while this sort of food supplies fuel and fat, it is so poor in the elements that support muscle and brain, that people living on it must very soon become weak in muscle, and uncertain in brain and nerves. I am reminded just here of the testimony of an intelligent physician, a friend of mine, who assures me, that for many years he has prescribed for neuralgia, among his female patients, simply the use of bread made of unbolted flour ; and by my advice, he has recently prescribed boiled wheat, and has found the results in the cure of neuralgia to be even more striking than the theory would promise.

Recipe for Good Bread.

Obtain good wheat and grind it without bolting ; mix it with cold water, until it is as thick as can be well beaten with a spoon ; and after it is thoroughly beaten up, put it into a large iron pan, composed of many little ones, which must first be made hot ; put the pan quickly into a hot oven, and bake it as rapidly as possible.

The heat of the oven instantly coagulates the gluten in the flour, which retains the steam within, whereupon the biscuits expand and become very light. This bread is very porous and digestible. It is delicious and wholesome if eaten hot, and is more so when cold.

This is the best bread that can be made of wheat.

If you prefer, raise the bread with good yeast, but don't use it until it is at least twelve hours old.

Rye.

Next to wheat, rye makes the best bread. It possesses the advantage that it remains moist for a long time.

Indian Corn.

Indian corn is an excellent and very strong nourishment. It contains a very large amount of oil, and so possesses remarkable fattening qualities, and is, likewise, remarkable as a heat-producer.

Barley.

This does not make light bread, but in the form of porridge or mush it is quite palatable, and is excellent food for the brain. Therefore, it constitutes capital food for literary men to use now and then.

Oats.

This grain is very rich in nutriment for brain and muscle. It not only gives the horse his highest activity and endurance, but also supports the Highlander through the severest toils.

Rice.

This supplies a large amount of carbonates, and will, therefore, keep its consumers fat, but it lacks the elements which feed the muscles and brain. Rice eaters must be a weak and indolent people. Such a man as Gen. Grant could be reduced to a weak and useless subordinate in a few months by eating rice alone. When we learn that the people of India live on rice, we no longer marvel that a few thousand beef-eating Englishmen should hold them in subjection.

Beans and Peas.

These are strong foods, and to those whose stomachs can digest them, they furnish the strongest nourishment for the muscles and brain.

Potatoes.

Potatoes, both Irish and sweet, are very poor in food for brain and muscle ; but as the potato contains a large amount of waste matter, it is a capital thing to mix with strong foods, like most meats.

But the potato, if eaten alone, would make a poor, weak-minded and worthless people. I wonder how much the potato diet of the Irish has had to do in developing their peculiar character?

Turnips, Carrots, Squashes, Parsnips, Etc.

This entire class of foods is nearly all water, and is dear food at any price, except during the hot season, when we need to flood the system with water and take very little strong nourishment. Then such water foods fill the stomach, satisfy the appetite, and relieve the system of the unwelcome and unnecessary labor of digesting strong food. The hot season is the natural and proper one for these foods which are ninety to ninety-seven per cent. water.

Animal Food.

An ox contains thirty per cent. food for heat and fat, mostly for heat, fifteen for muscles, and four for brains.

The five principal meats may be classified as follows, the first mentioned under each head standing first, and the last mentioned standing last :—

For *heat and fat*—pork, mutton, lamb, beef, veal.

For *muscle*—beef, veal, mutton, lamb, pork.

For *brain and nerve*—beef, veal, mutton, lamb, pork.

So it will be seen that while pork stands highest as a producer of heat and fat, it stands lowest among the brain feeders, and lowest, likewise, among the muscle feeders.

Phosphorus a Source of Life.

The vitality of plants, animals and men seems intimately associated with phosphorus.

The brains and flesh of men, quadrupeds, birds and fishes contain phosphorus just in proportion to their activity. Wild animals have much more than domestic; the most active birds, like the pigeon and the migrating birds, more than domestic fowls and quiet and lazy birds. The migrating fishes, whose muscular power enables them to swim up rapids and over falls, contain more phosphorus than the flounder and halibut, which are clumsy and comparatively dormant.

Insects which possess miraculous activity and strength of muscles abound in phosphorus.

Active birds live on active insects. The sluggish hen or robin is contented with corn or worms. The little king-bird, which is a match for the great hawk, lives on bees, hornets, or those very active flies that dart about in the upper air, all of which are particularly rich in phosphorus. A wild pigeon, which flies two hundred miles sometimes for its dinner, prefers millet and barley to all other grains. These contain three times the phosphorus of most grains. The tame pigeon, comparatively inactive, is satisfied with corn or other grains containing much less phosphorus.

Phosphorus in the Human Brain.

A celebrated French chemist has made many analyses of brains of children, idiots, and men of different degrees of mental activity. He found the percentage of phosphorus to correspond exactly to the degree of mental activity. In the brain of infants he found 80 per cent. of phosphorus; in the brain of a youth, 1.65 per cent., while in the brains of adults, 1.80 per cent.; in the brains of aged people, 1 per cent.; while in the brains of idiots there was only 85 per cent.

Another fact established by chemical analysis, which proves that the activity of the mind is dependent upon phosphorus, is this: Immediately after active mental labor the excretions exhibit a larger proportion of phosphorus than at any other time, *e. g.*, on Mondays and Tuesdays in clergymen, and at court time in lawyers. Experiments of this kind go to show that the amount of phosphorus used up and excreted is in an exact proportion to the intensity and continuance of the mental effort, and, at these times, observing clergymen and lawyers have declared that their appetites call for phosphoric food, as fish, cheese, unbolted wheat bread, oatmeal or barley cakes, etc.; and some desire and will have made for them cakes of bran, which contain all the phosphorus of the grain.

Foods Rich in Phosphorus.

Among vegetable foods, the following is their order as to richness in food for the brain: southern corn, beans, barley, oats, sweet potatoes, and peas.

The following is the order in which the meats stand as to their capacity for supporting the brain:—beef, veal, mutton, and lamb. Pork has about nothing for the brain.

The following is the order of the fishes:—salmon, codfish, haddock, smelt, lobster, halibut.

Among the foods in common use, abandoning the above classification into vegetable, flesh and fish, the following may be relied upon as the natural order in richness of brain nourishment.

The first article of food named is the richest in phosphates or brain nutriment, and as we go down the list they grow poorer and poorer; but all that are named in this list may be regarded as ranking well among the brain foods.

Rank of common foods, with reference to their capacity to support the brain.

Salmon, codfish, haddock, smelt, lobster, beef, veal, southern corn, mutton, lamb, beans, barley, and oats.

The Food of the Ancients.

Not one of us but has felt a strong curiosity about the food of the ancients.

Diodorus Siculus says that the first men ranged over the fields, and woods, in search of food, like the beasts, eating every wild herb they could find, and such fruits as the trees produced.

An ancient writer affirms, that the diet of the primeval race differed according to the productions of their respective countries; the Arcadians having lived on acorns, the Argives on pears, the Athenians on figs, etc.

Plutarch relates that the Argives led by Inachus, searched the woods for wild pears to support them.

Pliny laments the savage condition of the first ages "which subsisted on acorns."

Galen not only thinks these accounts are true, but he tells us, that, "acorns afford as good nourishment as many sorts of grain; that in ancient times men lived on acorns alone, and that the Arcadians continued to eat them, long after the rest of Greece had made use of bread corn."

Herodotus relates that upon the death of Lycurgus, the Lacedæmonians meditating the conquest of Arcadia, were told by the oracle that there were among

them the best acorn eaters, who would repel them, in case they attempted to carry their arms thither, as afterwards happened.

Is it not strange with what perverse hallucination philosophers and poets have ever spoken of those periods, in the history of the race, as the "golden ages?"

At length, by what steps we cannot know, agriculture, doubtless in simplest, rudest forms, began.

Hesiodus ascribes this invention to Ceres, and admonishes the husbandman to pray to Jupiter, and to her before he enters upon his labors.

Pliny attributes, still further, the invention of the plow, grinding corn, and making bread to Ceres, and adds, that "Divine honors were paid her in Attica, Italy and Sicily on this account."

At length, as the wonderful story goes, the Creator gave man permission to eat the bodies of animals. This is said to have been given first to Noah in the following words: "Every moving thing that liveth, shall be meat for you, even as the green herb have I given you all things."

And, immediately, another addition was made to man's stomach indulgences. "Noah began to be a husbandman, and he planted a vineyard, and he drank of the wine, and was drunken."

Of course he could not permit his family to indulge in wine, until he had first fully tested it upon himself. Might it not be poison? Might it not kill? With that self-sacrificing spirit so characteristic of man Noah first tried it fully upon himself.

Beer was discovered not long after. Herodotus informs us that in the corn province² of Egypt, where no vines grew, the people drank a sort of wine, made of barley. This, it is thought, is the strong drink mentioned, together with wine, in many places in the Old Testament. It is thought by those who have given most attention to the food of the original race, that different foods were introduced, much in the following order, viz.. "fruits, seeds, herbs, bread, milk, fish, flesh, wine and ale; to which may be added butter, honey, eggs, olive oil, and cheese."

Men struggle with all such enemies as alcohol and tobacco with a grand masculine heroism. Sheltering wife and children in the bosom of a quiet home, man goes forth to brave the storm. In this field of heroic endeavor woman has ever shown herself weak and uncertain. I have seen but two women who could "chaw" with assured success, and but very few whose smoking deserved to rank high. And as to whiskey, women have ever shown themselves, as a sex, utterly miserable. The ballot for woman? Never!

Management of our Diet during Warm Weather.

To-day (the 24th of June, 1870,) the thermometer here in Boston has been 94° in the shade. That is very warm for this neighborhood. This morning before breakfast it was probable that we were to have a hot one. Unless I prepared for it I was sure to suffer. But foreseeing the storm I took in sail.

Instead of eating meat, butter, etc., I ate for breakfast samp made of southern corn, and a little milk. At noon I ate a quart of cracked wheat and milk. You say this is an excessive dinner. Probably so, but I have had a great amount of work, both mental and physical to do, and need substantial nutriment. What I particularly wanted to say was this: The day has been excessively hot, but I have been quite comfortable. Others much thinner than myself have been using the fan and complaining, while I have been entirely at rest.

The food can be made to regulate the temperature of the body. In cold weather, fat meat, butter, etc., will keep the body warm, and in warm weather, the use of southern corn, milk, eggs, bran-bread, and summer vegetables will keep the body cool.

Strange Variety of Food.

Dr. Fordyce says : " I knew a black servant of Mr. Pitts, an Indian merchant in America, who was fond of soup made of rattlesnakes, in which the head, without any regard to the poison, was boiled along with the rest of the animal."

Dr. Kitchener says : " Our Italian neighbors regale themselves with maccaroni and parmesan, and eat some things which we call carrion."

" While the Englishman boasts of his roast beef and plum pudding, the Frenchman feeds on his favorite frog and soup maigre, the Tartar feeds on horse flesh, the Chinaman on dog, the Greenlander preys on garbage and train oil, and each blesses his stars and thinks it luxury."

" Darius having one day asked some of his Grecian subjects what sum would induce them to eat the bodies of their deceased parents, they instantly replied, that no bribe should ever make them do so horrid a thing. Upon this the same monarch, in the presence of the Greeks, too, demanded through an interpreter, of some Calatian Indians, how much they would take not to eat the bodies of their parents, whereupon they fell upon their knees and begged in the most piteous tones that they should not be deprived of so great a luxury."

Economy in Food.

Not long since, a middle-aged man, evidently a hard worker, with bent form and soiled clothes, came into my office and said :—

"Doctor, I have been reading your little pamphlet about cheap food, and I thought I would venture to drop in, tell you my story, and ask you some questions."

"I am glad to see you, sir, and shall be glad if I can help you."

"My story is this: I am a blacksmith, and receive fifteen dollars a week for my regular work. I have a sickly wife and five children. My wife finds her housework all she can do. My children, except the youngest, are in school.

"For rent I pay two dollars a week, fuel and light cost about two dollars more. Now you see that is six dollars a week, and we have but nine dollars left to feed seven mouths."

"Well, do you succeed in keeping them well filled with that money?"

"No, Doctor, it cannot be done; so I have to do some over-work, and worse than this, we are constantly getting into debt. I cannot bear to be in debt, and as I begin to feel old age creeping on, I am discour-

aged and heart-broken. Now can you tell me any way out of this bad business?"

"The rent, fuel, lights and clothing I think are all reasonable. You can hardly hope to reduce the expense in those departments. The only possible economy must be found in the feeding department."

"Well, there is no use in talking about that; we must have something to eat, or I can't work, and the children can't grow. In fact, unless we have something to eat we shall starve."

"Now I have learned your story, you may go home, come again one week from to-night, and I will give you some written advice about your table, to which you shall be most welcome."

The following is what I prepared for him:—

Meat.

You must have meat every day of the year. Your children should have some animal food during the autumn, winter and spring. But meat is very high. A sirloin steak costs in our market from thirty-five to forty cents a pound. And even this is not the most expensive part of the animal. But do you know that in an ox which, dressed, weighs eight hundred pounds, only a very small part brings this high price? And do you know that that small part is neither the most

nourishing nor the most palatable? While certain portions of the animal sell for thirty to forty cents a pound, there are portions, not one whit less palatable than the tenderloin (when properly cooked,) that can be bought for a very small price? Take, for example, what is called the shank; the very best can be bought for three cents a pound, and a single pound cooked in a stew, with dry bits of bread, will make a meal for yourself and your entire family. The French soldier understands better than anybody else the secret of getting much out of little. He will take the coarsest bit of the cheapest meat, and with a few crumbs of bread, an onion and a condiment or two, make a grand and delicious dinner.

When you go to the market for meat, don't buy tenderloin, but buy what are called coarse meats. If I were buying for my wife and self, I should invariably buy such pieces, because I really think them, aside from all questions of cost, (when cooked in one of the many stews,) the most delicious parts of the animal. So purchase for your dinner five to eight cents' worth, say ten cents' worth of the cheap, coarse bits. Among our foolish people the competition is so slight over these coarse meats, that the butchers have to put all the price on the small part which is in active demand; and sell all the rest for a mere nothing. I

cannot go on to tell you just what pieces you should buy, but buy such pieces as are sold in this Boston* market—the highest market in the United States—for three, four, five or six cents a pound. Good, solid meat is sold for these figures, and only needs to be steamed, or to be made into a stew, to be as tender and delicious as the expensive parts of the creature. The neck of the chicken is the most delicious part of the animal. The neck of a beef, when made tender, comes near being the most delicious part of that animal. Steaming and boiling are the best modes, and these modes of cooking have this additional advantage—you can put in any of the delicious condiments, which cost almost nothing. If you roast or broil you cannot permeate the meat with these delicate, savory condiments, but in a stew you can fill every part with any condiment which your palate may fancy.

I have said all I need to say to an intelligent American mechanic on the subject of animal food. Perhaps I should add, that an occasional use of fish, which, if you live near the coast, is always cheap, may be added by way of variety.

Leaving the meats, let us speak of the vegetable food. Oatmeal in the form of porridge, or in the form of cakes, is one of the most nutritious of vegetable foods. A pound of oatmeal is worth, as nutri-

ment, six pounds of superfine white flour, and, pound *for pound, costs less than wheat flour. It is most substantial and nutritious food. Not only does it sustain our powerful horses, but it develops the magnificent Highlander. Oatmeal porridge, or oatmeal mush, with a little milk, is a breakfast which would not only answer for your children, but which, in proper quantity, would abundantly support you during the forenoon. I noticed when you were here that you were very thin. Oatmeal, freely used, will help to make you plump.

Cracked wheat, or whole wheat, when properly cooked, is really one of the most delicious articles of food ever eaten by man. One pound of cracked wheat will give as much strength of muscle and nerve as seven or eight pounds of common baker's bread.

Hominy, samp and hulled corn are among the most substantial and lasting of human foods, and are very cheap compared even with wheat.

One pound of cheap meat boiled to rags,*with a quart of white beans, and eaten with brown bread, will make a dinner that a king might luxuriate upon. Your family of seven persons would not be able to consume such a dinner. It would be twice as much as the seven could eat at one meal, while the entire cost, saying nothing of fuel, would be less than a quarter of a dollar.

One pound of cheap meat (when I say cheap, I mean what is called coarse meat, simply those portions which are not tender if cooked by roasting or broiling, but which, I repeat, constitute the best parts of the animal when cooked in the way I am speaking of,) boiled with one pound of split peas, and served with five cents' worth of coarse bread, will make an abundant and delicious dinner for yourself and family.

Butter, poultry and potatoes are most expensive articles of food. A single bushel of beans, properly cooked, with condiments, will furnish not only more palatable food, but will furnish more nutriment than ten bushels of potatoes.

Prices of Meats, Etc.

Meats are very high in the Boston market. The other day I devoted an hour or two to inquiries of the leading market-men about the prices of different parts of the animal. They generally agreed upon these figures: that in an ox which, when dressed, weighs 800 pounds,

60 pounds bring 30 to 40 cents a pound.

140	“	“	20	“	“
400	“	“	12	“	“
30	“	“	10	“	“
40	“	“	6	“	“

90 pounds bring 3 cents a pound.

40 " " 1 " "

You are a stranger in Boston. I know a very large part of the people. Let us take a walk. We will go up Tremont Street. It is eight o'clock in the evening, and great numbers are out in full dress.

Do you see that gentleman in the handsome black suit, kid gloves and gold-headed cane? That man is a barber. I don't know about his wages, but I venture to say that they are not more than twelve dollars a week. When his board is paid he has just enough left to keep up that handsome dress.

I must not point, that you know is vulgar; but do you notice that tall lady, with the rich brown silk, with the end of it dragging on the sidewalk? She is a dressmaker. And that small, quick-stepping young woman, with the over-trimmed dress, just behind, is a clerk in one of our dry goods stores.

Look across the street; do you see that large, fleshy man? He is worth about two millions. His dress is not richer, you will observe, than that of several men whom we have just passed, and some of them I know to be persons who work by the day.

Now the same foolish emulation of the rich, the same false ambition which inspires this waste of everything upon dress, this living from hand to mouth,

without any reserve for a rainy day, is precisely the spirit in which people go to market and compete for those high-priced meats. Remember, only sixty pounds in a large ox sells for the high prices; and, although they are very little better, cooked in any way, than the low-priced meats, although the flavor is nothing like so good as many of the low-priced pieces, and although when cooked in the French style of condimented stews those high-priced pieces are inferior to the low-priced ones, still the ambition on the part of the poor, to walk side by side with the rich, is well-nigh universal, and leads to all this mad folly.

That foolish pride is the enemy which stands between many a man and a bank account.

My friend, Mr. Creighton, a wide and keen observer of men and things, said to me this morning in discussing this subject, "Why, I know several rich families on whose table a hasty-pudding is a frequent dish; but I don't know one poor family in which it is used. They are afraid it may seem a *poor man's* dish."

"Tell 'em," he said, "to mix oatmeal with the Indian, half and half, in making the hasty-pudding."

I will add that my friend, Stephen S. Foster, assures me that the biggest day's farm-work he has ever done, was accomplished upon hasty-pudding.

A Little Story about Table Economy.

It is now Saturday afternoon, and I will tell you in confidence, my dear reader, (of course with the understanding that you won't speak of it,) a little of my personal, private experience during the past week.

On Sunday morning last I thought I would try, for a week, the experiment of living cheaply.

Sunday breakfast, hulled southern corn, with a little milk. My breakfast cost three cents. I took exactly the same thing for dinner. Food for the day six cents. I never take any supper.

Monday breakfast, two cents' worth of oatmeal, in the form of porridge, with one cent's worth of milk. For dinner, two cents' worth of whole wheat boiled, with one cent's worth of milk. Food for Monday six cents.

Tuesday breakfast, two cents' worth of beans, with half a cent's worth of vinegar. For dinner, one quart of rich bean porridge, worth one cent, with four slices of coarse bread, worth two cents. Food for Tuesday five and a half cents.

Wednesday breakfast, hominy made of southern corn (perhaps the best of all food for laboring men in hot weather) two cents' worth, with one cent's worth of syrup. For dinner a splendid beef stew, the meat

in which cost two cents. A little extravagant you see. But then, you know, "a short life and a merry one." Perhaps you don't believe that the meat was purchased for two cents? But it was, though. The fact is that from an ox weighing 800 pounds nett, you can purchase certain parts weighing about 100 pounds, even in this dearest of American markets, for three cents per pound. Two-thirds of a pound made more stew than I could eat. There was really enough for two of us. But then, you know how careless and and reckless we Americans are in regard to our table expenses, always getting twice as much as we need. I must not forget to say that these coarse, cheap portions of the animal are among the best for a stew. The very genius of waste seems to have taken possession of me on that fatal day. I poured into my stew all at once, slap-dab, a quarter of a cent's worth of Leicestershire sauce, and as if to show that it never rains but it pours, I closed that gluttonous scene by devouring a cent's worth of hominy pudding. Food for Wednesday eight and a quarter cents.

The gross excesses of Wednesday led to a very moderate—

Thursday breakfast, which consisted of oatmeal porridge and milk, costing about two and a half cents. For dinner, cracked wheat and baked beans, two cents

worth of each, milk one cent's worth. Food for Thursday cost seven and a half cents.

Friday breakfast, southern hulled corn and milk, costing three cents. For dinner, another of those gormandic surfeits which so disgraced the history of Wednesday. Expense for the day, eight and a quarter cents.

This morning when I went to the table I said to myself, "What's the use of this economy?" and I made up my mind that for this day, at least, I would sink all moral restraints, and give up the reins to appetite. I have no apology or defense for what followed.

Saturday breakfast, I began with one cent's worth of oatmeal porridge, with a teaspoonful of sugar worth a quarter of a cent. Then followed a cent's worth of cracked wheat, with half a cent's worth of milk. Then the breakfast closed with two cents' worth of milk and one cent's worth of rye and Indian bread. For dinner I ate half a small lobster, which cost three cents, with one cent's worth of coarse bread, and one cent's worth of hominy salad, and closed with two cents' worth of cracked wheat and milk. Cost of the day's food twelve and three-quarter cents.

In all of these statements only the cost of material is given. The cost of cooking is not given.

Cost for the week fifty-four and a quarter cents.

Of course I don't pretend that everybody can live in this luxurious way. It isn't everybody that can afford it. I could have lived just as well, so far as health and strength are concerned, on half the money. Besides, on three days I ate too much altogether, and suffered from thirst and dullness. But then I may plead that my habits are very active. Not only have I written forty odd pages of this book during the week, but I have done a large amount of hard muscular labor.

By the way, I weighed myself at the beginning of the week, and found it was just 212 pounds. Since dinner to-day I weighed again, and found that I balanced 212 1-2 pounds, although it has been a week of intensely warm weather, and I have had unusual demands for exertion of various kinds.

But let me feed a family of ten instead of one person, and I will give them the highest health and strength upon a diet which will cost here in Boston not more than two dollars for the ten persons for a week. Let me transfer my experiment to Iowa, where wheat, corn, oats and beef are so cheap, and the cost of feeding my family of ten would be so ridiculous that I dare not mention it lest you laugh at me.

And so far from my family group being one of ghosts or skeletons, I will engage that they shall be

plumper and stronger, healthier and happier, with clearer skins, brighter eyes, sweeter breaths, whiter teeth, and, in addition, that they shall live longer than your Delmonico diners, each of whom spends enough at a single dinner to feed my family of ten for a week. And last, but not least, they shall enjoy their meals vastly more than your Delmonico diners.

Story of Another Kind.

About two weeks ago, a friend of mine from the South, was in town, and invited me to dine with him at a fashionable restaurant.

We began with a little green turtle soup, which was fifty cents; then we took a bit of spring lamb, with mint sauce, which was seventy-five cents; then a little sweet-bread, with Madeira sauce, at seventy-five cents; then a bit of spring chicken, with truffles, at one dollar and forty cents. I said:—

“Hold on, Bob, hold on!”

“No *sir*, you must go one or two more.”

So he called for plover; this was one dollar and fifty cents. While this last was preparing, we indulged in salmon salad, which was sixty cents.

We closed this little dinner with strawberries and cream, thirty-five cents. My friend having no fear of the temperance society before his eyes, indulged in a

bottle of Madame Cliquot, which was three dollars. Now supposing I had drunk the same thing, our dinner would have cost seventeen dollars and seventy cents. As it was the cost was fourteen dollars and seventy cents. This is not very high. At Delmonico's I have known two gentlemen to pay for dinner and Champagne thirty dollars. And even where a dinner table is spread for a large company, it is not uncommon to charge fifteen dollars a plate. I have heard of very much higher figures.

So you see Bob and I were, after all, rather mean in our dinner. Bob said several times :—

"Why, what's the matter with you? you don't seem to have any appetite!"

"Well, not much; the fact is the weather is so warm, one don't feel like eating; besides, you know, temperate eating is a sort of hobby with me."

But moderate as our dinner was, I could take the money which was paid for it, and feed thirty men for a week. And more than that, instead of their feeling stupid and thirsty, as those who dine fashionably do, my boarders should have the finest, brightest health, while not one of them should suffer gout or its cousin rheumatism.

The Story of Young Samuel.

When I was a boy my sympathies were awakened by what I thought the cruel starving of the calves. They were fed only twice a day, morning and evening. Eating all day myself, I thought it very cruel to tie up these poor little helpless things, and give them no food or drink from morning till night. Each of my brothers had a calf, my sister had a calf, and I had a calf. The others were satisfied with John's assurance that twice a day was enough, but I knew better; and made such a fuss about their starving my poor little Sam, that the "powers that be" ordained that the feeding in the case of young Samuel should be as his owner directed. Upon the proclamation of this ukase, I determined to show 'em what's what, and to make sure, I fed Samuel myself. I gave him all he wanted, about once in two hours.

But at the end of six weeks, how the rest of 'em did crow over me. It was true, as they said, that at the beginning of my "sausage-stuffing system" as they called it, Samuel was the biggest calf in the lot, but at the end of the six weeks, Oh! what a fall was there my countrymen! Even my smallest brother's little Fan could give Samuel odds. To cap the climax, when we untied and turned them all out together,

little spotted Fan went at my Sam, upon whom my hopes had centered as the bully of the yard, and woloped him in just no time. For a long time they wouldn't stop plaguing me about that good-for-nothing calf. My little sister, who could hardly speak plain, asked me one morning at the table, "How's 'e pophet Sam'el 'is mornin'?"

From that day to this I have never advocated the frequent feeding of calves. They do best on two meals a day; and now I have no doubt that some other calves I wot of would do vastly better on two meals a day.

Speaking of Samuel, I am reminded of his final taking off, which was ignominiously tragical. While he was illustrating the high-pressure milk principle, his hair turned in the wrong direction. At first I rather prided myself on the nice curls, and pointed them out as proofs of his superior beauty; while curly hair, they all admitted, was a sign of tough constitution. Very soon, however, the tendencies were so distinctly pronounced there could be no doubt; Samuel's hair was all pointing toward his nose.

Somehow, after this, he did not seem to be a prosperous calf, and when he was about six months old, it was discovered that, in addition to his other graces, he was sorely afflicted with lice. John said: "All right,

I'll fix 'em." So he steeped up a piece of plug tobacco about as large as two average "chaws," and pouring the infusion on Sam's back, he rubbed it backward and forward with the stable sponge. Sam ran away when he was released, and John remarked, "all right, that tobacker jooce will fix them lice, right smart."

Samuel was not at that time my calf; I had exchanged with my youngest brother for spotted Fan, giving a maltese kitten and my ball to boot. His present owner followed after Sam when Doctor John discharged him as cured, but soon returned with the news that Sam was drunk. Great as was our respect for Sam's capacity for blunders and vices, we hardly believed this, and ran out to see. Sure enough he was staggering, and soon down he went. Sam looked very sick, and made the most unmusical sounds I ever heard; but after a few convulsions he was dead. The boys sat upon the case and brought in a verdict of death from poisoning by tobacco juice; but John stuck to it,—

"'Twant tobacco, nor nothin' of the kind; but 'twas jest the way with that pesky, contrary calf, he never would do nothin' like other calves."

I know a great many calves that are gradually but surely poisoning themselves with tobacco juice. If

they would have it rubbed all over their backs, it would kill them in an hour or less ; but because they keep it in contact with only the limited surface of their mouths, it will not kill immediately, but will be sure to poison and undermine the constitution in the end.

Ho ! all ye calves who smoke and chew, a solemn warning I give to you ; if you follow in the footsteps of my red calf, you won't live out your days by half.

Some will say, " Of course this has reference to *nicotine* or *empyrumatic oil*, or some other extract of tobacco ; of course it can't mean tobacco juice of the common sort ; that wouldn't produce any such symptoms. My dear fellow, if you are not in the habit of using tobacco, just take the wrapper off a cigar, wet it and put it into your arm-pit, and then sit down and make yourself comfortable. But you won't stay comfortable. Very soon you will be sick, then you will vomit, then you will look very pale, a cold sweat will stand out all over you, you will tremble and gasp fearfully, and suffer enough in ten minutes to satisfy you that tobacco is quite a respectable poison.

But put this leaf in your arm-pit every day, and soon nature will accommodate herself to the new enemy. And, although a slow cumulative poisoning will go on, no such violent flurry will again occur.

One Meal a Day.

The Greek and Roman armies ate but once a day, and so important was the habit regarded in the Roman army, that they made it the subject of special thanksgiving. One of their most frequently repeated prayers closed with these words :—

“And we thank the gods that our soldiers eat but once a day.”

So general was the habit in the days of Hippocrates, that the “Father of Medicine” says in one place :—

“When a man so far forgets himself as to eat more than one meal a day, he soon becomes thirsty and stupid.”

A Roman traveller tells us of certain “beastly tribes who were not satisfied with one meal a day.”

Catlin assures us that the Indians, when on the hunt or war path, never eat but once a day.

The big teamsters in Pennsylvania, from time immemorial, have fed their horses but once a day.

The best and the hardest worked horse I ever owned was driven two years in the practice of my profession in the country. It was more than a quarter of a century ago, and before I had ever heard much about one meal a day. I fed Robin only once a day because it

was inconvenient to feed him oftener. He seemed to do well, so I continued. On putting him up at night, I poured twenty quarts of oats into his trough, and put a lock of hay into the rack. A box of salt was left near him, to which he might resort at pleasure. In the morning a good grooming, and he was ready for another day. He did wonderfully well, and accomplished more miles than any other horse I have ever driven.

Lysander Spooner, referred to in another place, is now sixty-two years of age. Up to fifty he ate three meals a day, then for nine years two meals, and now for three years one meal a day. Mr. Spooner has suffered a good deal from stomach troubles during his life, and, indeed, until the adoption of the one meal system. Now he is bright and cheerful as a boy, and has a skin like a baby's. I do not know another man of his age so youthful in spirit.

I scarcely know a better thinker than Mr. Spooner, while his honesty has passed into a proverb. After his complete experiment, he is warm and explicit in his testimony. He is confident that if workers of all classes would rise early from an eight hours' sleep and digestion, they would be ready for a day's work without further eating. As evening came on he would have them rest for an hour, perhaps drink a glass of

water, and then quietly and slowly fill the stomach with plain, substantial nourishment. Then sleeping and digesting, they again prepare themselves for a day's work, without any division of force between the brain and muscle and the stomach. During the day the stomach asks for nothing, the brain and muscle have it all their own way.

I have myself begun an experiment with this one meal system, and after a year or two will report progress, and either ask to be excused from further service on the committee, or, on the other hand, I shall ask leave to introduce a resolution, that we all live in this way.

The Law of Digestion.

There is no doubt about the physiological law. It is this: While the food is in the stomach it contributes nothing to the activity of brain or muscle, but takes from that activity. Indeed, we have all noticed that a full stomach requires so much nerve force that the brain becomes dull. It is only after the food has passed out of the stomach and is in the blood and tissues that it helps the brain and muscle.

Now the practical question is this: Can we take food enough in the evening at a single meal to last twenty-four hours. I rather think that with us it

can't be done. It certainly would be a capital arrangement if practicable. It would give the brain and muscle great freedom and advantage during the day.

It is idle, it is silly to decide such a question in any other way than by a fair trial. To simply say, "It's no use talkin', a feller must have his three meals regular," is to speak like a fool.

If it can be done, it will nearly double the working time and power of our brains and muscles.

After a couple of years' trial I will report.

They used to say, "But a man can't live without his grog;" and the Englishman has declared that "A man can't live without his five meals a day."

I have no doubt that a man may live a long and healthy life and drink three glasses of grog every day, and that if the quantity of food be moderate, a man may eat five meals a day, and live a long life and enjoy fair health; but it is not difficult to show that if a man avoids grog, and eats less frequently, he will live longer, and enjoy higher health. A man may eat every two hours, smoke ten cigars a day, chew between the smokes, use snuff, take opium morning and evening, sit up till midnight, and do a dozen other outrageous things, and still wear a good round face; but to avoid them all, and live an abstemious life, adds many years, and multiplies indefinitely the happiness of life.

ADULTERATIONS OF FOOD.

Most of the articles which appear on our tables are more or less adulterated. All wines and liquors are adulterated, while oils, pickles, vinegar, preserved fruits and meats, confectionery, sugar, milk, spices, coffee, cocoa, tea, butter and bread, are more or less adulterated.

Adulterating Substances.

The articles used in adulterating these foods are various sorts of copper and arsenic, various compounds of lead and of mercury, Prussian blue, chromate of potash, Brunswick green, gamboge, indigo, catechu, alum, Venetian red, sulphate of soda, yellow ochre, and besides these deadly poisons, chalk, plaster of Paris, chicory, starch, beans, burned peas, rye, potatoes, lard, water, turmeric, etc., are employed.

Adulterations of Bread.

Sprouted or grown wheat makes a common flour sold at a low rate, and generally purchased by the bakers. Sprouting in the grain changes the character of the gluten, so that it is difficult to make with it light and spongy bread; but this lost quality can be restored by the use of blue vitriol, lime-water or alum.

Alum is the article usually employed. From eight to sixteen ounces of alum are added to each barrel of flour.*

My friend, Dr. Hoskins, analyzed a large number of specimens of bread purchased in different parts of the city, and found alum in every sample, and the proportion was, as stated above, from eight to sixteen ounces of alum to a barrel of flour. The white and light condition of baker's bread is due, generally, to alum. This bread is apt to produce heart-burn.

Is it not strange that the inexperience and ignorance of the average Yankee house-keepers can produce a better bread, more palatable to everybody, than all the skill and other advantages enjoyed by the baker? His bread should be greatly superior to hers, but is not so, because he purchases an inferior grade of flour, and doctors it.

The introduction of corn meal, rye, flour and potatoes into bread is exceedingly common; but as neither of them is poisonous, we shall pass them.

Alum is Poisonous.

Dr. Wood, in his work "Therapeutics and Pharmacology," says of alum, "when swallowed in a quantity of a dram or more, it not unfrequently

causes nausea and vomiting, and sometimes produces griping pains and purging."

Devergie found about six drams of dried alum given to a dog to produce death, when the œsophagus was tied, so as to prevent vomiting. "When used for a considerable time in doses insufficient to nauseate, alum not unfrequently produces a sense of stricture in the epigastrium (pit of the stomach), præcordial oppression (oppression about the heart), and other dyspeptic feelings, probably by interfering with the secretion of the gastric juice, and thus impairing digestion."

Adulterations in Tea.

Tea is now probably consumed by five hundred millions, or nearly one half of the human race. Its active principle, of which it contains about two per cent., is *theine*, and is, so far as chemistry has been able to analyze, identical with the active principle of coffee, of cocoa and of maté, or the Paraguay tea.

In England, spurious tea is made from the leaves of the sloe, elder, hawthorne and other plants. Besides these, the exhausted leaves collected from the hotels and restaurants are dried, colored and mixed with genuine teas.

The Chinese adulterate teas extensively by mixing the leaves of other plants, as those of the ash, plum,

camellia; secondly, they manufacture a spurious article denominated "lie-tea"; and, thirdly, they glaze and paint the leaves with various coloring matters. Mr. Fortune says, after describing the process of manufacturing tea out of the leaves of other trees:—

"Here, then, were very fair looking green teas made from the leaves of a large tree, as unlike the tea shrub as could well be; and an article as closely resembling black tea could have been just as easily made out of these leaves."

A superior looking black tea is frequently made by coloring the inferior kinds of tea leaves with black lead, or what we should call stove-polish.

"There is no such thing in nature as *green* tea. The whole of this so-called *green* tea is a yellowish green leaf colored with Prussian blue, indigo, turmeric and gypsum.

"Young hyson," says Mr. Davis, "is often made up by cutting and sifting through sieves of a certain size, other green teas." Mr. Davis says there was, when he was in China, an extensive manufactory of green teas from damaged black leaves, at the village or suburb called Honân. His friend, a Hong merchant, conducted him to the place where the operations were carried on. He there saw the damaged black leaves, after being dried, transferred to a cast-

iron pan and stirred rapidly with the hand, a small quantity of turmeric in powder having been previously introduced. This gave a yellowish color, and they had still to be made green. To this end some lumps of fine blue were produced, together with another substance in powder, which, from the names given to them by the workmen, as well as their appearance, were recognized at once as Prussian blue and gypsum. These were stirred into the tea, in the pan over the fire, until it had taken the fine bloom color of hyson. To avoid the possibility of error, Mr. Davis took samples of the substances employed.

Mr. Bruce states that in the "last operation of coloring the green teas, a mixture of sulphate of lime and indigo, very finely pulverized and sifted through fine muslin, in the proportion of three of the former to one of the latter, is added. Into a pan containing seven pounds of tea, about half a teaspoonful of this mixture is put. Indigo gives it the color, and sulphate of lime fixes it. Mr. Fortune, during each of his journeys, saw the process of coloring teas. He states that, at one of its stages, the hands of the workmen are quite blue. . . .

"I could not help thinking," he remarks, "if any green tea drinkers had been present during the operation, their tastes would have been corrected and im-

proved." Again, he says, "I have stated that the plants grown in the district of Che-Kiang produce green teas; but it must not be supposed these are the green teas exported to England. The leaf has a much more natural color, and has little or none of what we call the beautiful bloom upon it, which is so much admired in Europe and America. There is no doubt that all these blooming green teas, which are manufactured at Canton, are dyed with Prussian blue and gypsum to suite the taste of the foreign barbarians."

He adds: "In every hundred pounds of colored green tea, the consumer actually drinks more than half a pound of Prussian blue and gypsum."

The Chinese never drink colored teas themselves, and only color them because they are in demand and fetch a higher price.

Adulterations of Coffee.

It is rare to purchase ground coffee which is pure. It is adulterated with chicory, dandelion root, and very extensively with the ground powder of many grains. Just now dried carrot roots are extensively used. Peas and beans are likewise much employed.

Cocoa and Chocolate. These are so generally adulterated that one may go through the shops of a town without finding one pure sample.

Butter. The statements of the wise ones about the adulterations of butter are almost incredible.

The quantity of water and salt that butter should contain, is about two and one-half per cent. of salt, and ten per cent. of water. As much as fourteen per cent. of salt has been found, and a much too large percentage of water. As high as thirty per cent. of lard is frequently added to the cheaper grades of butter. In rare cases flour has been used.

The detection of the presence of water in butter is easy. Melt it, pour it into a bottle, and keep it near the fire for some time, and the two substances will separate. The water will be seen at the bottom, milky from the presence of whey, and the butter at the top. The proportion of each may be easily estimated.

Lard of the cheaper qualities is often greatly adulterated. Twenty-five and even thirty per cent. of water is added, and often salt. The presence of water may be detected as in butter. There is no excuse for the use of salt; its presence in the smallest quantity is an adulteration. Flour is sometimes added to lard, but as it sticks and burns upon a hot vessel it is easily detected.

Adulterations of Honey.

Honey is so commonly adulterated that it is difficult to find, even among the best dealers, pure strained

honey. The only protection against adulterations in this article is to buy it in the comb.

The newspapers contain advertisements of recipes for artificial honey. I have examined a number of these and find that they are mostly made of sugar, water, cream of tartar and essence of peppermint.

Sugar is not often adulterated, though the very finely ground sugars sometimes suffer in this way by the addition of flour.

Pepper, Mustard and Cayenne.

These are mostly sold in powder, and are very rarely sold pure. The adulterating substances consist, in considerable part, of damaged goods of the same class, such as have been injured by insects or in damp places, or such as have suffered by injury from water. These are ground up and are not easy to detect.

Allspice is frequently adulterated with flour.

Cloves are often adulterated with various kinds of bark; and often those which appear to be genuine are deficient in strength, having had a portion of the strength extracted. Dr. Hoskins, of this city, says in his work, "What we Eat": "I have purchased several samples labelled *cinnamon*, none of which contained a particle of that spice; they were all the much inferior article *cassia*, in many cases damaged, and in

all either mixed with corn or rice flour. Two samples were colored with ochre, and many were almost tasteless.

Cayenne is adulterated with corn meal and salt; and this is so common that it is difficult, even if you procure it of a first-class druggist, to obtain cayenne pure.

Mustard is rarely pure. The adulterating substances are flour and turmeric. Sometimes fifty per cent. is added to the weight in flour, and then the turmeric is introduced to restore the color.

Horse-radish is so generally adulterated, that instead of a mass of the size of a kernel of corn starting the tears, one may take a teaspoonful without any disposition to cry.

Confectionery, Vinegar, Pickles, Preserved Fruits, Meats and Fish.

I find it very hard to write about the adulterations in confectionery in an amiable temper. It is abominable,—this poisoning children with various preparations of lead and other deadly poisons.

The colors are principally reds, blues and greens.

Dr. Hoskins, in the work before quoted, declares that he has verified the presence of all the following

poisons in the coloring matter of candies : *Chromate of lead, gamboge, cochineal, Vandyke brown, amber, sienna, Antwerp blue, Prussian blue. Brunswick green, verdigris, emerald green and false verditer.*

With one exception, these are all deadly poisons, and they are introduced in sufficient quantities, not only to produce derangement, but in thousands of cases, to poison children, and, I have no doubt, in a great number of cases, actually kill them.

The subject of deadly poisons in the coloring matter of candies has excited very grave interest among some of the most scientific and philanthropic of the men of science.

Dr. Hoskins says, in regard to the quantity of poisons used in coloring confectionery : “ They say the quantities of coloring matter used are infinitesimal. Perhaps so, but I have myself scraped enough *Scheele's green* from one small sugar toy to kill a rabbit in a few minutes.”

The only way to avoid positive poisoning is to shun confectionery *in toto*, and, although sugar may be taken in moderate quantities by children without serious injury, no medical man will tell you that a child will suffer by avoiding it altogether.

Pickles. That bright green color seen in the pickles

sold in bottles and otherwise, is produced, in every case, by some compound of copper, a deadly poison. For my part, I never touch them; and I may add that I have seen many persons poisoned by them. I have never seen a case of death produced by these beautiful, bright green pickles, but I have seen numberless cases in which such poisoning has produced thirst and a deranged stomach.

Vinegar. Vinegar is so generally adulterated that there is no absolute safety except in making it in your own house. It may be made from cider or sweetened water, by a process generally known.

Pickled Cabbage. One other curious fact in this matter of adulterations is found in the article known as pickled red cabbage; which very frequently is common cabbage colored with some vegetable dye.

Wines and Liquors. Wines and liquors are adulterated (as the public has long since learned,) to an enormous extent; but as I feel no interest in that, and would, if I could have my own way, multiply the adulterations by a hundred, I will say nothing of it.

Milk. Milk reflects the condition of the animal secreting it. Dr. Van Ammon, physician to the King of Saxony, gives an interesting illustration: "A car-

penter quarrelled with a soldier billeted in his house, and was set upon by the latter with his drawn sword. The wife of the carpenter at first trembled from fear and terror, and then suddenly threw herself furiously between the combatants, wrested the sword from the soldier's hand, broke it in pieces and threw it away. During the tumult some of the neighbors came in and separated the men. While in this state of strong excitement, the mother took her child from the cradle where it lay smiling and in most perfect health, never having had a moment's illness; she gave it the breast, and in so doing sealed its fate. In a few minutes the infant left off, became restless, panted and sunk dead on its mother's bosom. The physician who was instantly called in found the child lying in the cradle as if sleeping, and with its features undisturbed; but all his resources were fruitless; it was irrecoverably gone.

Cows fed upon distillery slops, and kept in close, heated, dark stables, give a milk unfit for human food, and especially mischievous to infants. In the distillery stables of New York, cows are packed together as closely as they can stand in the midst of indescribable filth, in dark, heated, unventilated buildings, and are fed upon hot slops from the whiskey stills. When these dreadful places have been investigated, the poor crea-

tures have been found in every stage of disease and rottenness, and, although the capital invested in this vile business has been able to suborn the testimony of false physicians to the healthfulness of these detestable slops, no thinking man can believe that the milk, every drop of which is taken from the blood which is constantly circulating through the filthy ulcers and rotten tissues of these toothless, feverish, half-blind and staggering creatures, can be sweet and healthful. Thousands of babies in a city like New York fall a sacrifice to the cupidity of these swill-milk harpies.

And even when the milk comes from the country, and makes its journey in the cars, it is then commonly adulterated with water, a little salt, and colored with burned sugar. The amount of water introduced depends upon the cupidity of the milk dealer. The amount of water added is, ordinarily, from twelve to fifty per cent., or, to use the language of the trade, "from 8-1 to splitting it right in two." It would be most wise, and would soon correct this evil of adulteration with water, if the little instrument known as a *lactometer* (which costs but little,) were kept in every house. If the instrument be a good one, it is an infallible detective.

CONDIMENTS.

I am rather disposed to think that my criticisms upon condiments, in "Weak Lungs and How to Make Them Strong," were a shade too severe. While I am ready to repeat here what I said there, that I believe all condiments except salt are unnecessary, I must say that I have observed, particularly in the large Institution at Lexington, over which I had the honor to preside so many years, and the dietary of which was under my control, certain facts which lead me to say that I believe the occasional and moderate use of pepper, spice, ginger, cinnamon, nutmeg, cloves, mustard, oil, etc., may be productive of much good. I think they may all be used, as the palate suggests, in moderate quantities.

Tomatoes.

Some years ago tomatoes were called love-apples, and were thought to be very poisonous. I remember my mother charged me to avoid handling them. Some persons thought them deadly poisons. That opinion was incorrect. Now, you hear people say, "tomatoes are the healthiest of all vegetables, and you cannot eat too many of them." That opinion is

likewise incorrect. The tomato is not the healthiest of vegetables, and, if used at all, it should be eaten with great moderation and should never be eaten raw. I have known a great many persons to suffer from tender and bleeding gums, from "teeth set on an edge," and a number from loose teeth, produced by eating tomatoes. I have known a number of cases of very painful piles caused by excessive use of tomatoes. I have several professional friends who have observed the same facts among their patients. At the close of a lecture, which I gave fifteen years ago in Cincinnati, on the subject of human food, I criticized tomatoes much as I am doing now, and among a dozen persons who came upon the platform, after the usual fashion, to be introduced to the lecturer, seven testified to having suffered from sore mouth, and one from having had a peculiar condition of the stomach, developed when the tomato season first began. Indeed, I believe the idea I am expressing is not a new one, even among the people. A great many persons have asked me, "Do tomatoes contain calomel?" They inferred, from the fact that tomatoes produced a sort of salivation, that they contained mercury.

Let me give you a case. Many years ago, while practising my profession in Central New York, I was passing, one evening, a large woollen mill. The

proprietor hoisted the window of his office, and asked me to stop. I rode up to his window, and he said : —

"Please step in a moment, there is a young lady up stairs who wishes to see you."

Well, I was not surprised at the request, for I was then an unmarried man, so I hitched my horse and went in. The young lady was sent for and soon appeared with : —

"Oh, ah, yes, excuse me a moment, I will return immediately." She came back in a moment, and, holding out a paper containing about twenty teeth, said : —

"Well, doctor, what do you think of that?"

"Well," I said, "I should think there were about twenty teeth."

"Yes," said she; "but what should you say, if I should tell you that they all came out of my mouth?"

"Well, I should say that you had lost most of your teeth."

"Oh, yes, but what I wish to know is, what do you think is the cause of the loss of my teeth?"

"Well," I said, "I cannot answer that question. What do you think was the cause of it?"

Let me remark that, if to any feature of what may be called management, I attribute any share of my professional success, it is to the almost uniform prac-

tice of asking my patients what they thought was the matter with them : what they thought was the cause of their malady, and even what they thought would cure them. The fact is, that sick people, thinking a great deal about their symptoms, and being more interested in the history and possible cure of their maladies than any doctor can be, often have clearer views of the origin, the nature, and the best treatment than the wisest physician can possibly obtain in a brief examination.

Well, this young lady said, "I will tell you what I think is the cause of the loss of my teeth. Last summer I fell sick, and my doctor said I must leave the mill and go into the country to rest. I went over the river to visit my uncle, a farmer, and remained with him three months. Shortly after my arrival I learned to eat tomatoes, and, during my stay there, I ate them constantly. I was told that they were the healthiest thing I could eat, and that I could not eat too many of them. I soon learned to like them, ran and picked them off the vines in the garden, and, slicing off bits with my knife, ate them without cooking or condiments. Almost immediately my mouth became sore, and my gums bled freely upon the use of the tooth brush. But I was told this was the disease in my stomach working off through my mouth. No one sus-

pected the tomatoes. When I came home, I brought with me a bushel and a half, and ate them as long as I could preserve them. In the meantime, my teeth had become loose. At length they became so very loose that I began to take them out with my fingers, and I now have but one tooth left, and if you would like to have me take that out, I can do it with my fingers."

I told her that I had often seen teeth extracted; that it would be no special gratification to see the last one taken out. But I assured her, from many facts that had already come under my observation, that I had no doubt of the general correctness of her opinions.

Now, my practical suggestion is this. If people are fond of tomatoes, they may eat them in small quantities, say one or two teaspoonfuls of cooked tomatoes at a meal, as a sauce; but I believe that, if a person is already in good health, tomatoes are not likely to improve his health; on the contrary, that the tomato is *medicinal*, and should never be used in any considerable quantity by healthy people. I believe that, finally, they will be put in the category with medicines, and prescribed, when necessary, by a medical man.

Necessity of Acids in Digestion.

If men live too long without fresh meat and vegetables, the malady known as *scurvy* appears. There is, in this case, a highly alkaline state of the system. *Acids* are demanded. Lemon juice, or vegetables containing certain acids, relieve the sufferers at once. In our artificial life considerable acids are frequently needed in digestion. This explains our use of vinegar upon so many articles of food. Observe how keen our instincts are ! It is with pork and beans, lettuce, cucumbers, salads, salmon, and other articles of difficult digestion, that we use vinegar. Even the Dutchman's abominable *sauer-kraut* is easy of digestion with its abounding acid.

A few years ago a medical brother brought to my notice a singular case of indigestion. The woman suffered from eructations to a most distressing degree. The eructations began a little after each meal, and continued often three hours. The bowels were distressingly disturbed with incessant rumbling. The rapidity with which this gas was secreted surprised me. She suffered likewise from a terrible despair. During the day she was almost wild with visions of the infernal regions. But late in the evening she became morbidly brilliant, happy, hopeful, and indulged much in visions of heaven.

Upon a careful inquiry into her habits, I learned that she consumed daily large quantities of saccharine matter. She ate sugar or syrup on, or in, everything. I directed that she should eat for breakfast and dinner all she might want of boiled beef or mutton, with unfermented bread, and no drink but cold water in very small quantity. No supper. At the close of breakfast and dinner she was to suck the juice of a lemon.

The patient had been suffering for several years. In a few weeks she was well; and, by avoiding sweets and using lemon juice daily, has continued to enjoy good digestion. There is hardly a day passes that I have not the privilege of relieving some sufferer from dyspepsia by advising avoidance of sweets, and a moderate use of acids.

During the last twenty years I have been in the habit of saying that no family of five persons should use more than a pound of sugar a week. The importance of this rule is every year growing upon me. I have a clear conviction that much of our indigestion would disappear upon the banishment of sugar and molasses from our grocery bills. The longing for acids so common among our dyspeptics is the language of an organic want.

Pastry.

I have often said that if I were a minister of the Gospel I should constantly pray that the Lord would help us out of this cake and pie mania. It is bad from beginning to end,—bad altogether. I confess I cannot explain satisfactorily to my own mind even, the reason for the indigestibility of pie. For example, a mince pie is a compound of those very articles which abound in the most healthy food,—meat, apples, flour, and a few simple condiments. Now, all these articles may be eaten in other relations, without harm. One may make a full meal of them. But put them into a mince pie, and make a meal of the pie; your stomach is a remarkable one if the brain is not at least a little dull during the process of digestion; while, if your stomach is weak, you will not be likely to repeat the experiment. What is true of mince pie is to some extent true of *all* pies.

Now, when we recal that these pies are usually eaten at the close of a hearty dinner, when nine in ten persons have already eaten too much, their use is at once seen to be a serious evil. I have no hesitation in saying that pies must be abandoned, without reservation, by all who would live the highest physiological life.

Precisely the same remarks are applicable to cake.

Water.

Burial places have often polluted the water of wells.

When society is more fully civilized and christianized, in my opinion human bodies will not be buried in the ground, but they will be burned. For my own part, although I know that when I leave this body it will be no more to me than my cast-off clothing, still I have never been able to look without horror upon my body buried in the ground, with no companionship but the worms busy with my eye-balls and in my mouth; but I can contemplate without emotion its burning.

Besides, it seems to me, as the earth contains but a very small — an almost infinitesimal percentage of material which can be incorporated into a human body, that it is hardly honest when one dies to hurry down deep in the earth the hundred or more pounds of that precious and scarce material which nature has lent. And although this material finally gets back into the great currents of nature, even if buried in a lead coffin, how much more prompt, and, therefore honest the payment of our debt, if by burning the body its precious constituents are given back at once into the atmosphere — that vast granary from which all living creatures are fed.

Speaking of the final disposition of the body, I am reminded of the words of Democritus, who, when on his death-bed, and spoken to by his friends about his burial, uttered the following memorable words: "Take no care for my burial, for stench will bring a carcass." His friends replied, "Is it your mind then to be cast out to birds and dogs?" He said again, "Seeing that in my lifetime I have endeavored to my uttermost to benefit men, what hurt is it, if, when I am dead, I benefit beasts?"

I shall never forget the request of John Brown — that his body should be burned. The noble, honest soul yearned to pay every debt, and stand justified before God. But Virginia civilization was "shocked at the impious thought."

But returning to the subject of water, I would say that rain water which falls in remote country districts is the purest; then comes river water; next the water of lakes; after this, common spring water, and then the water of mineral springs. The waters of the Black Sea and the Sea of Azof, which are only brackish, follow next; then those of the great ocean; then those of the Mediterranean, and last of all come the waters of lakes which, like those of the Caspian Sea, the Dead Sea, and the great Salt Lake, possess no known outlet.

It is not necessarily the purest waters that are most favorable to health. Man is fitted by the Creator to the planet, and as the waters upon which we must chiefly depend, and which are principally those coming out of the earth itself, are charged with various foreign matters, we are so contrived that those waters are most favorable to our health. Many persons have used distilled rain-water under the impression that the *purest* waters were the healthiest. Numerous facts go to prove the contrary.

Those river waters that flow from mountainous districts through a hard and rocky soil, are, on the whole, most favorable to human health.

Next to these the waters of lakes, next to these the waters of springs and wells, though in regard to wells one must discriminate. In order that the water of a well should be favorable the well must not be in a populous or filthy district.

I once knew a family every member of which was attacked with a peculiar kind of typhoid fever. The fever was characterized by peculiar stomach symptoms, and an eruption, which suggested to my mind the presence of some organic poison. I set about a careful examination of their food and drinks. Upon asking where they obtained water for the family consumption, I was taken to a well in the barn-yard. This well

was surrounded by several inches of liquid manure. Upon drawing up a bucket of the water, not only did I find that it tasted queer, but I could smell the presence of the droppings of the barn-yard. The exclusive use of water from a spring in a side hill twenty rods away cured them all. Thousands of domestic animals have been killed or injured by the use of water from barn-yard wells.

I knew a very interesting case of a poisoned well, which came very near proving the death of a large and fine family. First a diarrhoea attacked several of them. Then there appeared general languor, restlessness and lack of appetite, with fever, very bad taste in the mouth, and headache. At length, a young woman, a daughter in the family, became so ill that I was asked to see her. The father, a clergyman, told me, as something very curious, that all the family were suffering much as Katie was. An examination of her symptoms excited my suspicions, and I inquired about their table and other habits. I questioned them about the flour they were using, etc., etc. At length, I said, "Let me drink a glass of the water which you are using." Its taste was not that of pure water. Mr. G. conducted me to the well. I drew up a bucket of water, tasted it, smelled of it, and said, "I believe the trouble in your family comes from this well."

But upon examining the surface of the earth for many rods around, there seemed to be no cause for the impurity of the water. It was an old well, had been in use perhaps for a century, and never before been at fault. I asked about drains. There certainly was a drain from the cellar, but he did not know which way it ran; but as the ground at the well was lower than the cellar, I thought it not unlikely that the impurities came from the cellar. We sent for the man who had cleaned the drain, and learned that it terminated within twenty feet of the well. The strange fault was corrected, and the family began slowly to recover, and after two or three months of convalescence, were entirely restored.

While on this point I want to give another case. I once knew a family whose supplies of water were obtained from a well in the cellar of their house, and was pumped up through a pipe into the kitchen. This fact I did not know for a year or two after they came under my professional care. From time to time I had urged such a course as to diet, bathing, exercise, sleep, etc., etc., as medical men are in the habit of urging upon their patrons. I had promised them that upon making certain changes they would be greatly improved, but was mortified that the contrary was the result. This puzzled me, and I determined, at

length, to find the bottom of it. Upon the inquiry "Where do you obtain your drinking water?" they replied, "In the cellar"; and taking me down, they showed me a dark, damp cellar, with a very disagreeable smell; and lifting up some boards from the floor, I found an abundant explanation of the general bad health of the family. The pipe which came down from the kitchen above and entered this well did not prevent the surface-water from flowing in. I may remark, that during the year previous to the occupation of this house by my friend, a family occupying the premises had lost two children.

Nothing could be done but to dig a well at some little distance from the house. Soon the health of the family so much improved that there was no longer any doubt about the cause of their ailments.

Lead Pipes.

There can be no doubt that lead pipe in our water service is dangerous to health and life. It is hardly necessary, after the volumes of evidence already before the public, to illustrate and explain. It only remains to join in the wish that soon lead pipe may be exchanged for the galvanized iron pipe, which has already been accomplished in my own residence in Boston, with entire satisfaction.

People ask with a bewildered air, "What shall we do? We know that lead pipes are dangerous, but we must have water by some means." In reply to this question, I advise galvanized iron, or, if you please, simple iron pipe without galvanizing. Either is good, but the galvanized is cheaper, because it will last very much longer.

Lead pipe with tin lining, copper pipe with tin lining, and many other substitutes have been used.

Paper pipe, which is now coming into use, promises well. It is made of strong paper, wound into pipes, and thoroughly soaked in tar. It becomes so hard and strong that it will bear a pressure almost equal to iron, and will not rust or decay. Besides, it gives no poison to the water. As this pipe is cheap and easily joined, end to end, I do not see why it may not come into general use. Some years ago I laid down a thousand feet of two-inch paper pipe, to convey water from a spring to my house and barn in the country. It has never leaked; it has never imparted any perceptible taste to the water; in brief, it has always proved perfectly satisfactory.

Glass pipe is, healthwise, perfect, and has been quite extensively used.

On the whole, iron and paper pipes are best.

Drinks.

What shall I drink? is a common question from those who are seriously discussing a higher life.

My answer, in most cases, is this : Drink cold water on rising in the morning and on lying down at night ; and, unless you find that it disagrees with you, drink as much as you can swallow.

If you have good teeth, drink nothing with your meals ; but if your teeth are imperfect, and you must have some assistance in swallowing the food, drink *hot water and milk, or weak coffee and weak tea*. If you drink a single cup of the best coffee or tea, quite weak, it is, perhaps, all in all considered, the best drink. Of course, either of these, when there exists a decided tendency to cerebral congestion or nervousness, may be counter-indicated. They should not be drank hot ; a little over a hundred degrees is quite warm enough.

Besides these drinks, I may mention *cocoa* and *chocolate*, both of which are healthful drinks when used in moderation.

Sweet *buttermilk* is a particularly refreshing and healthful drink. *Soda-water* is a fashionable drink, and, if not used within four hours after a meal and, say, one glass a day, may be a harmless one. Cer-

tain root beers (for example, Ottawa beer) are very palatable and not injurious.

Intoxicating Drinks.

I shall not in this place undertake to consider the subject of alcoholic stimulus. Its prescription, as a medicine, by an intelligent physician will ever be respected by the public; but with me it is a settled conviction that every form of alcoholic stimulus, though it be that of the light French wines, is injurious. The liquors which have been employed on shipboard, in Arctic regions, or by armies in hot climates, have been shown to be evil and only evil. The most overwhelming proofs have been produced before the English Parliament that the use of even moderate quantities of alcoholic stimulus helps to freeze men to death in the Arctic regions, and to produce various fatal diseases in the hot climates; that, in a single word, they are, without qualification, *bad*.

All those who would investigate this subject further, I take the liberty to refer to Dr. Carpenter's remarkable essay, which received a handsome prize from the British Parliament. He leaves us not a peg on which to hang an apology for rum. He overwhelms us with facts showing that alcoholic stimulus is an unmitigated curse to British sailors and soldiers, in all climates and under all circumstances.

Cold Drinks During Meals.

Dr. Beaumont, to whom, in writing on the stomach, one finds himself obliged to refer so constantly, makes a very interesting statement illustrating the influence of cold drinks upon digestion. He placed his thermometer in St. Martin's stomach, and found the temperature 99° . A gill of water, at the temperature of 55° , was introduced. As soon, says Dr. Beaumont, as it was diffused over the interior surface, the temperature was reduced to 70° , at which it stood for a few minutes, and then began very slowly to rise. It was not till thirty minutes had elapsed, and all the water had been for some time absorbed, that the mercury regained its former level of 99° .

When we reflect that, in this case, there was but a single gill of water, and the temperature was 55° , which hardly deserves the name of *cold*, we shall not hesitate in pronouncing upon the habit of drinking the usual quantities of *ice* water with our meals, or that of consuming at the end of a full meal a dish of ice cream.

When we remember that a temperature of 99° is absolutely required to carry forward the process of digestion, can we doubt, if a gill of water at a temperature of 55° produced such a marked effect upon

the stomach of St. Martin, a person of the rarest vigor and health, I say, can we doubt what must be the influence of a pint of ice water upon the stomach of a person of weak digestion?

It is not intended to say that cold water should never be drank during the meal time, because if at the moment the system is thirsty—really requires water, it is better to drink even ice water than to undertake the mastication and insalivation of a meal with a lack of the required water in the blood.

As stated in other places in this volume, a certain amount of water is required to carry on the functions of the animal economy, and one important function is to keep the body cool, during the heated season, by a rapid evaporation from the skin. This, during the warmest seasons, requires considerable quantities of water. So far as possible, this should be taken into the system upon rising in the morning and upon lying down at night. If, during the warm season, a quart of water be introduced at these two periods, it would greatly lessen the necessity of drinking at meal times. But there is no doubt it is a less evil to chill the stomach, to reduce its temperature thirty degrees, and to hold it below the point of digestion even a half hour or more, than to allow the system to go without the requisite supplies of water.

Mineral Waters.

It's a singular fancy that a water the taste and smell of which are disgusting, is "drefful healthy." At the mineral springs I have seen people guzzling liquids which were sickening. It is very funny — the martyr spirit in which they choke it down.

The notion that these stinking waters are healthy, must come from the old idea that all good medicines are bad to take. Most folks will never believe that a sugar-coated pill can be as efficacious as one that goes down with a shuddering gasp.

I remember that a sort of Scotch-Yankee,— a tall, gaunt, uncouth customer, — came into my office some years ago, kept his overcoat closely buttoned, and asked in a whisper,

"Can I see you privately about something very important?"

"Oh," I said, "speak out, my clerk never leaks."

"Oh, I wouldn't for the world. I tell you it is something very important, its a big thing!"

I sent out the clerk, and then said to my mysterious visitor,

"Now, sir, speak on, I have but a moment to spare."

He then slowly unbuttoned his overcoat, looked

from side to side, and drawing out of a deep pocket in his undercoat, a black bottle, he pulled out the cork, and again looking to make sure that no outsider should overhear, he stuck it up to my nose, with :

"Smell of that, I've got a spring on my farm that sends out a stream as big as your arm, all just like that."

"I hope it aint very near your house, for I never smelt such a stink in my life."

"Why," said he, "that smells exactly like some of them Saratoga waters. Don't you think it must be awful healthy?"

I fear his visions of a second Saratoga gathered about that spring were somewhat disturbed, but still before he left he charged me to keep dark, for said he, "I tell you it's a big thing, and there is enough for us all."

Another phase of this ridiculous mania is often met in the profound opinions of people who affect science. One of this class showed me the analysis of the waters of a certain spring, just now much lauded, and said, "there is Chloride of Magnesium and Bromide of Potassium and Sesquioxide of Manganese; those must be good. I think they are just what I need."

I congratulated him upon his intimate knowledge of

his physiological wants, and assured him that with thirty years of physiological study, I had only learned that a sick man needs fresh air, sunshine, temperance in food and work, a clean skin and plenty of sleep; but as for these high sounding ingredients of mineral waters, I had not yet learned what seemed so easy and clear to him.

I have no doubt that if a man eats enormously of stimulating, indigestible food, drinks wine, tea and coffee, sits up till midnight, neglects his skin and so on — the modern fast life, and thus induces a feverish condition of all his tissues, he may, by swallowing quantities of cathartic waters, superinduce a new condition of his system, and as in the case of mercury, or other drugs, will, for a time, feel better; but a man of good habits needs none of these things and will only be harmed by them.

What Shall We Drink?

You know that a great many people are constantly on the *qui vive* about new drinks. Most sick folks seem to think that if salvation ever comes to them, it will come from a bottle. Millions upon millions of bottles of various fluids are yearly drank in our country, to relieve thirst, and for their medicinal virtues.

I must tell you a little story. I have a friend here

in Boston, Colonel B. The Colonel has suffered, during fifteen years, from what he calls rheumatism, what I call gout. He often comes in to advise with me, and never fails to show his favorite toe. I never allow such an occasion to pass without repeating, in one form or another, my belief, that whenever he can come down to simple water, and a plain diet, he will get well. On the occasion of such a visit recently, I said to him :—

"Colonel, I now wish to prescribe for you."

"Well, is it your cold water and starvation prescription?"

"Colonel, I think you will be interested in a new discovery which I have made, and which I am sure, if you take the remedy faithfully, will cure you."

"Well, pray tell me what it is, for I would give a fortune to be able to run about as I did thirty years ago."

"Colonel, the new remedy is known as '*protoxide of hydrogen*.'"

"Prot—prot—ox—ox—what did you say it was? Speak that again."

"It is protoxide of hydrogen, Colonel."

"You will have to write that for me. I am suré I can't remember it. And you must tell me where I can get it."

"Well, I will write it,—there it is; protoxide of hydrogen."

"Now, where can I obtain it?"

"Well, at almost any of the drug stores."

"Do they keep it in bottles, or on draught?"

"You can obtain it in either form."

The Colonel started with the remark; "I really believe, Doctor, that at last you begin to understand my case. I have always told you that if I was ever cured, it would be with some new mineral water, or some such sort of stuff; something that would drive out this miserable devil in my foot."

As the Colonel was about to leave I said to him:—

"Colonel, I don't know but I had better give you the common name for this new fluid, for the druggists may not know it by the scientific name."

"Oh, well, if there is a common name, to be sure you had better give it."

So I took the prescription and wrote the word "*water*."

"But," said the Colonel, putting on his glasses and reading the new word, "is not that WATER?"

"Yes, Colonel, that is it. Protoxide of hydrogen is the scientific name for water, and I never was more certain of anything than I am that if you will confine yourself to protoxide of hydrogen, leave your brandy

and champagne, those inflamed joints will get well."

"Oh, bah! I don't believe in any such silly, simple stuff."

The fact is that thousands have so long regarded medicines as the only source of relief, when sick, that if water could be put in bottles, slightly colored with some harmless substance, and a tumblerful given three times a day, leaving off tea, coffee and spirits of every kind, thousands of people who are now inflaming their tissues with these various narcotic and stimulating drinks, would recover from their sufferings.

I will confess to a little experiment which I made, many years ago, upon the imagination of a susceptible patient. The lady believed that her heart was falling down into her abdomen. She felt it just as plain as could be. At length it reached the very lowest part. Then I could put her off no longer. Something must be done. I gave her a vial of water, slightly colored with a little inert vegetable dye, and directed her to take thirty-three drops once in thirty-three minutes, and charged her to be particular about the time, to a second. I promised to call again at five minutes before three o'clock, and, comparing watches, I told her she might expect me exactly at the minute. I told her, in the most solemn and earnest way, that she might

look for a peculiar crawling sensation in the abdomen, which would rise gradually till it reached the former position of the heart, and it would then pass off by peculiar flashes. I called precisely at the appointed time, and learned that the crawling had begun. She told me, her eyes overflowing with gratitude, that she could feel the heart working up after every dose of the medicine. I promised to call again at exactly twenty minutes past eight, and if, in the meantime, her heart began to rise too fast, she must send for me immediately. All went on well, till near eight, when a messenger came bawling into my office :—

“Dochtor, oh ! dochtor dear, come as quick as iver you can fly ! it's risin' too fast intirely !”

I had increased the dose from thirty-three to forty-one drops at the three o'clock visit, and the effect had been marvellous. Indeed, it had been exactly what I had desired ; but the ascension was now too rapid, and I must resort to a desperate expedient. I must put sixty-five drops on the outside to counteract the too powerful influence of the forty-one drops inside. I remained two hours to see her through. All went on wonderfully, and by ten o'clock the heart was in the right place, and the doctor had performed a miracle. A month later, and she told me, when paying her bill, that I might expect to be handsomely men-

tioned in her will. Indeed, this trick, (I now think it was an unworthy trick,) secured me a gratitude, which no truthful, common-sense management of her case could have won.

People like to be humbugged, Barnum says, and though this may not be true, I think even intelligent people do like a little mystery in their medical treatment.

It is, notwithstanding, the duty of the medical man to see, that so far as his individual influence may go, the light of common-sense is let in upon the whole subject.

The fact is, the history of dosing is so unreasonable, not to say silly, that we have been obliged to hide behind Latin and professional ahems, else the people would have abandoned us. When two doctors with brains meet at the bedside of a patient, and proceed to count his pulse, look at his tongue, and do up the doses, they hardly dare look each other in the face, lest they burst out laughing.

Ah, but when the practice of medicine shall consist in guiding the people aright in all their habits while they are well, and helping them when sick to bathe in Nature's pool of Bethesda, then it will be a profession of truest dignity, and of largest opportunity for the largest and noblest men.

HUMAN STARVATION.

Dr. Jones, of Augusta, Georgia, made a report to the authorities at Richmond, of the condition of the Federal prisoners confined at Andersonville.

The following extracts from Dr. Jones's report are introduced here to illustrate the phenomena of starvation. I have spent some days in looking through our Boston libraries to find descriptions of starvation in man, and, at length, fell upon this graphic, terrible story of Andersonville. The history of the world contains nothing like it, and it is presumed, should the world continue for a thousand ages, medical writers will ever recal the sickening tale of Andersonville, as the one unparalleled instance of starvation : —

"The field was of great extent and of extraordinary interest. There were more than five thousand seriously sick in the hospital and stockade, and the deaths ranged from ninety to one hundred and thirty each day. Since the establishment of this prison, on the 24th of February, 1864, to the present time, over ten thousand Federal prisoners have died : that is, near one-third of the entire number have perished in less than seven months. I instituted careful investigations

into the condition of the sick and well; and performed numerous post-mortem examinations, and executed drawings of the diseased structures. The medical topography of Andersonville and the surrounding country was examined, and the waters of the streams, springs and wells around and within the stockade and hospital carefully analyzed.

"Diarrhœa, dysentery, scurvy, and hospital gangrene were the diseases which have been the main causes of the extraordinary mortality. The origin and causes of the hospital gangrene, which prevailed to so remarkable a degree, engaged my most serious and earnest consideration. More than thirty thousand men crowded upon *twenty-seven acres* of land, with little or no shelter from the intense heat of a southern summer, or from the rain and dew; with coarse corn bread from which the husks had not been removed; with scant supplies of fresh meat and vegetables; with little or no attention to hygiene; with festering masses of filth at the very doors of their rude dens and huts; with the greater portion of the banks of the streams flowing through the stockade a filthy quagmire of human excrement alive with working maggots, generating, by their own filthy exhalations and excretions, an atmosphere that so deteriorated and contaminated their solids and fluids, that the slightest scratch of the sur-

face, even the bites of small insects, were frequently followed by such rapid and extensive gangrene, as to destroy extremities, and even life itself.

"A large number of operations have been performed in the hospital, on account of gangrene following slight injuries and mere abrasions of the surface. In almost every case of amputation for gangrene, the disease returned, and a large proportion of the cases have terminated fatally. I recorded careful observations upon the origin and progress of these causes of gangrene, and examined the bodies after death, and noted the pathological changes of the organs and tissues. All these observations, together with the drawings, will be forwarded to the Surgeon-General at the earliest possible moment.

* * * * *

"In such cases an urgent feeling of hunger was not a prominent symptom; and, even when it existed at first, it soon disappeared, and was succeeded by an actual loathing of food. In this state the muscular strength was rapidly diminished, the tissues wasted, and the thin, skeleton-like forms moved about with the appearance of utter exhaustion and dejection. The mental condition, connected with long confinement, with the most miserable surroundings and with no hope for the future, also depressed all the nervous

and vital actions, and was specially active in destroying the appetite. The effects of mental depression and of defective nutrition were manifested not only in the slow, feeble motions of the wasted, skeleton-like forms, but also in such lethargy, listlessness and torpor of the mental faculties, as rendered these unfortunate men oblivious and indifferent to their afflicted condition. In many cases, even of the greatest apparent suffering and distress, instead of showing any anxiety to communicate the causes of their distress, or to relate their privations and their longings for their homes and their friends and relations, they lay in a listless, lethargic, uncomplaining state, taking no notice either of their own distressed condition or of the gigantic mass of human misery by which they were surrounded.

"Nothing appalled and depressed me so much as this silent, uncomplaining misery."

From all the military prisons in the South the same thrilling and awful illustrations of starvation may be gathered; but Dr. Jones, who has long been known to the medical profession as the author of valuable medical papers, has given us, in his reports from Andersonville, a graphic statement of the symptoms of starvation. His field of observation was immense and complete.

Starvation as a Cure or Dyspepsia.

Many dyspeptics have completed the ruin of their stomachs by starvation. Observing that, for the time being, it affords relief, they conclude that in this they are to find a cure. But after awhile they learn, to their sorrow, that the stomach, with almost nothing to do, accommodates itself to this nothing, and loses the power of digestion.

An intelligent lady said :—

“About a year ago I began to suffer from heartburn and constipation. A friend advised me to go without supper, and take only a small quantity of bread and baked apples for breakfast and dinner. At first I was delighted with the change. All my nervousness and low spirits passed away, and I thought I had discovered an important secret. After a time, I found that even the small quantity I had been eating, was too much, and I reduced it still further. Within three or four months, my stomach, and my whole body, became so weak, that I found the least increase in the quantity of food, or any unusual exercise, produced great weakness, and suffering in my stomach. Within the year I have lost more than thirty pounds of flesh, and my stomach is now so weak that an extra swallow of water, an extra ounce of bread, or an extra baked apple, produces great suffering.”

This woman being young, will recover, but it will be through much suffering. I recommended the moderate use of meat, and a gradual increase in the quantity and strength of her nutriment.

The tone of the stomach, like the tone of the muscles, may be lost by lack of exercise. While it is the common thing to find dyspepsia produced by excessive and injudicious eating, it certainly is not very uncommon to meet cases of dyspepsia produced by starvation.

There is a curious fact about digestion which is not easily explained. It is that strong, hard-working men can digest strong food with greater satisfaction than light digestible things. For example, I have known many such persons who could digest hard boiled eggs much easier than soft ones. They not only relished them better, but the hard ones seemed to agree better with their stomachs.

An old woman, to whom I was mentioning this fact, said :—

"Sartin, I allers knowed that, and I'll tell ye why. Now my old man couldn't never eat pap, it turned his stummick; but laws a mercy how that critter would put down cheese. Ye see there was something in the cheese for his stummick to git hold on. John never could write with limber pens, but with a ra'al stiff one he could write fust rate,—something to git hold on.

Cookery.

In ancient Rome the cook was regarded with great honor. The Sicilian cooks won the highest honors. In the time of the first Roman emperors a sum as large as \$4,000 a year was given to the best cooks. Mark Anthony gave his cook a whole corporate town, or *municipum*, because he dressed a pudding to the satisfaction of Cleopatra. Afterwards, Henry VIII, of England, presented one of the crown manors to a woman who compounded a pudding to his taste.

In modern times, the French enjoy the reputation of succeeding best in the culinary art, and I think their reputation is well founded. They make more out of a little, — they extract a larger amount of nourishment and present it in a more palatable form, than other cooks. The best class of French cooks succeed in preparing a great number of very delicious dishes from cheap and unpromising bits. I think the French have made, in this art, one of their most important contributions to civilization.

Monsieur Blot is engaged in a good work in introducing to the women of America the art of French cookery.

The very best meats, vegetables and flour may be

so spoiled in the cooking, that they not only fail to gratify our palates; but, in addition, they ruin our stomachs.

The magnitude of Monsieur Blot's contributions to our welfare it is somewhat difficult to appreciate. He begins by convincing his audiences that cooking is one of the finest of the fine arts. When that is established in the mind of an intelligent American woman, the task is half finished; for, despairing of the success of an art which she has come to see requires intelligence and delicate skill, — despairing of even tolerable results in the hands of Bridget O'Flaherty, who last month arrived fresh from a mud hut and a diet of potatoes, somewhere in Ireland, my lady is compelled to go into the kitchen and put into practice what she has learned in her course of lessons. This earnest interest which has been provoked in a thousand households by the labors of the Frenchman, cannot fail to result in great good.

While I do not believe that women were made solely to cook food and mend stockings, I do believe that, as our domestic life is organized, it is desirable that every wife should understand the art of plain cooking. She should know how to make good bread, how to cook plain meats, and how to prepare the ordinary vegetables. These things are not achieved

without a certain acquired skill. An unpracticed hand cannot boil or bake a potato well. Give her the best material and she will ruin it.

TO MAKE OATMEAL PORRIDGE.—Sift slowly good oatmeal into boiling water, add a little salt, and stir very thoroughly, and boil for fifteen minutes. A farina or double boiler, with water between the outside and inside one, possesses a marked advantage over a single boiler. Eat it with cream and sugar, only let the quantity of sugar be small.

RYE MEAL PUDDING.—Exactly as in the case of the oatmeal porridge, except the boiling must continue . . . twenty minutes.

HASTY PUDDING (INDIAN).—Exactly as with the oatmeal porridge, except that the boiling must be continued three-quarters of an hour.

HASTY PUDDING (INDIAN AND OATS).—Mix Indian meal and oatmeal, half and half. Manage exactly in this case as in the oatmeal porridge, but continue the boiling three-quarters of an hour.

FARINA PORRIDGE OR PUDDING.—This is made like the oatmeal porridge, but boiled twenty minutes.

CRACKED WHEAT.—First look over the cracked wheat and remove all the little black seeds. In order to make it quite satisfactory, and with very little trouble, use either a farina boiler, or else make by steam.

To one cup of cracked wheat put in three cups of water. If you use a farina boiler, fill up the space between the outside and inside boiler, and then set it in a place where it will keep just boiling hot. Let it remain four to five hours, and just before taking it off the stove, put in a little salt. Eat with milk and sugar (very little sugar), or with syrup.

MEAT STEWS.—If the meat has not been eoked before, boil it until it is half done. Then put in potatoes quartered, a carrot or two, a turnip, and boil until done. Add a little salt, and any other condiment that your palate may fancy.

Mrs. Postawka, who has charge of my own kitchen, has given me the above, and now advises me to recommend all earnest inquirers to obtain a full receipt-book. She thinks the best cook-book yet published in this country is by Mrs. E. Putnam, published by Sheldon & Co., 500 Broadway, New York. In this there are full details in regard to the making of plain bread and cake, soups, modes of cooking fish, meats, poultry, salads and dressings; preparation of garnishing for dishes, sauces, cooking vegetables, making pastry, puddings, ice cream, cake, preserves, dishes for the sick, economical receipts (important department,) etc., etc.

Biddy O'Flannigan as a Cook.

Deacon W——, residing six miles out of Boston, quarrelled and parted with his coachman and his cook on the fifth of July. They returned from Boston late on the evening of the fourth, a little too patriotic for practical purposes, and the result was that on the morning of the fifth they were sent off.

Mrs. W—— being an invalid, was in great distress, as she expected company, while the Deacon was very, *very* sorry about his horses. But he hurried in after breakfast, put an advertisement in three papers, with directions to call at his office in Kilby street. The next morning they began to come. The Deacon understands the necessity of a good hostler, and asked certain questions of every man who applied for the position of coachman.

"How often do you think horses should be fed? What do you think is the best food? Should it be given whole or ground? When should hay be given? Should it be fed in a rack or from a trough? When should the horses be watered? Should they be allowed to drink all they want?" etc., etc. The Deacon had determined he would not be humbugged. He knew that if his horses were to flourish the man having charge of them must be intelligent and understand the busi-

ness of feeding, driving and taking care of them. The Deacon asked many questions about the use of the curry-comb, brush, blankets, etc. Nearly thirty men called before he found one that suited him. After receiving satisfactory answers to his many questions and examining the man's "character," he concluded, with some misgivings, to engage him. The wages were thirty-five dollars per month. He cared little what price he paid, so he got a man who could fill the bill.

The Deacon engaged the second girl that applied for the position of cook. The first one was evidently intemperate. The second one was quite young, but clean, and healthy. He asked her if she could do plain cooking. She replied, "Bedad, and it's meself that can do that same!" The Deacon wished to see her "character", which, although written by an unknown party, stated that she was honest, a good plain cook, with but little experience. The Deacon said that would do, — it was simply a cook they wanted. So after agreeing upon \$3 a week, he gave her a car ticket, and a card with the directions, and forwarded her to Madam, that the machinery of the country home might be set in motion. The Deacon has four children dependent, with himself and wife, upon the cook for health of brain and mind. This ignorant Irish girl,

without experience, was given unrestrained, unlooked-after charge of the preparation of all the food for the family. The health, the happiness of the group, were made to hinge upon Biddy's skill in cooking.

When the Deacon returned in the evening, he went directly to the barn, and for half a month looked after his horses more or less every day, lest Thomas's skill should not fully meet the necessities of the case.

But no one seemed to doubt that Biddy would be able to prepare the food all right for the family.

There is no doubt, that the best cooking requires rare skill. One woman takes from a certain barrel, flour; from a certain other barrel, potatoes, and from the table, a piece of beef. Another woman takes the same things. Each proceeds to prepare a dinner for ten persons. In one case, the food is delicious, easily digested, and gives health and strength; in the other, the food is not palatable, it is very difficult to digest, and, instead of giving health and strength, produces an attack of dyspepsia. Among cooks, one in ten may be ranked as good; the other nine are bad, or indifferent.

If we had schools for instruction in cooking, and all aspirants to the profession were obliged to earn diplomas, nine in ten of the cooks would be good ones. The Irish brain is not particularly susceptible to the

training required in the best cooking. But while a man insists upon the best tailor in town, upon the best upholsterer, the best dressmaker, the finest church, school, actor, and artist, and would laugh at the idea of a green Irishman in any of them, he goes to an intelligence office, picks up a fresh-caught Irish girl, and hires her to perform services more important than all of these put together,—I mean more important to the health and happiness of himself and his loved ones.

For the present, the most feasible means is to do what several towns are already doing, viz. : join in a co-operative kitchen, in which, by the best skill, food may be cooked for the whole town, and in those little tin boxes now so much used for transporting soups and hot meats, everything may be delivered at the furthest house in town as hot as in a room next to the kitchen. This, if we can make up our minds to it, is altogether the cheapest, most satisfactory and healthful.

I should not so much object to employing Bridget to make a dress for my wife, to teach the piano, or to do any other similar service, if we were hard pushed ; but I protest that ignorance and stupidity shall not rule in the kitchen. The physical, intellectual and moral life of the household rests upon the kitchen, almost to the same extent that a building rests upon

its foundation. In the kitchen, if nowhere else, we must have judgment and skill.

Two things must be done if we continue to live in this isolated way—each family running a kitchen for itself, we must establish schools for training cooks, and we must make up our minds to pay eight or ten dollars a week for the services of a good cook.

There is no such waste in any other department of our life. We provide the very best flour, meats, poultry, fish, vegetables, fruits, sauces and condiments which the capital, science and skill of the world can produce. In making these purchases we pour out our money like water. Delivered in our kitchens, Bridget O'Flaherty, surrounded by ranges, boilers, steamers, and a thousand and one conveniences, prepares and sends up to the dining-room, stuff, which does not gratify the palate, which damages the stomach, poisons the blood, and seriously deranges our entire life, physical, intellectual, social, moral, religious. At no other point, I repeat, in our civilized life, is there such stupid, reckless waste. No sane man would permit such ignorant, stupid waste in the management of his horses or his hogs.

Christianity can make but little progress under the present system of cookery. Dyspepsia is a cloud so dense, it shuts out the very light of Heaven.

Corsets and Digestion.

One of the essential forces in digestion is a certain motion of the stomach and intestines, known as the vermicular or worm-like motion. The contents of the stomach during digestion must be constantly mixed and intermixed. The motion of the stomach accomplishes this mixing and intermixing.

"Please go with me to the——House to dinner to-day.

"Well, here we are. I want you to watch the ladies as they come in. I can't bear to hear men criticise ladies, but we will venture a little observation and comment, in a low voice, and we won't let them see that we are looking at them.

"Do you see that slight, pale lady with the little girl? She is the wife of Mr. H. our wealthy broker. She is in wretched health. Look at her waist! What do you think of the chances of the vermicular motion in her stomach? It wouldn't take very long hands to clasp round that waist. And within that space not only must the stomach work, but the liver, spleen, pancreas, transverse colon, several feet of the small intestines, and many large arteries, veins and other organs must all find room to work. Things get sadly mixed and distorted.

"Look at that large red-faced woman leaning on the arm of that little man. What immense shoulders and hips. But just notice her waist. Do you know that women have naturally larger waists in proportion to their shoulders than men. Look on the first page of any anatomical work and you will see! Look at the Greek Slave by Powers. Compare that with any of the great master-pieces representing the male figure, and you will see that the female has a larger waist in proportion to the shoulders than the male. That lady weighs over two hundred pounds, while her waist is much smaller than her husband's, and he weighs not more than one hundred and twenty pounds. Her stomach after dinner is, or should be, pretty large, her liver is an immense organ, — then all the other organs which I have mentioned must find a place in there somewhere. And now, how do you suppose they manage it? Well, they get doubled up and twisted about in a very remarkable way, and a very large part of the mass is jammed down into the lower part of the abdomen. When she rises, if you will look at her person, you will observe that the lower part of the abdomen is immensely protuberant. Half of all which belongs in that part of the upper abdomen where the corset has compelled that deep scoop-shovel hollow has been pressed down into the lower abdomen.

"Let us watch this large woman a little, while she eats. Soup, salmon, beef, canvass-back and plum-pudding, with all the fixings, and two glasses of sherry! What do you think of that for her doubled and twisted stomach?

"Now we will go. Have you seen one in this large company of ladies who gives her stomach a fair chance for the vermicular motion?

"And they can't understand this miserable, dragging, faint feeling in the stomach, and that other distressing sensation of pressing down in the lower part of the abdomen."

You might just as well expect the arm or leg to work without room, as the stomach. If the stomach could speak for itself, I fancy it would say:—

"What do you take me for? Do you think I can digest soup, fish, meat, game, pudding, pie, ice cream, etc., and, at the same time, be squeezed with those infernal whalebones laced down all around me with that strong cord? What do you think I am? Do you take me for a mule or jackass? My mistress, suppose your arms and legs were all tied with strong cords, and then the cruel torturer were to command you to rise and toil! What would you think of it? Well, that is just what I think of your tying me down, and then commanding me to work.

"Weight" in the Stomach.

I frequently meet a case of indigestion the most marked feature of which is what the patient calls weight in the stomach. Sometimes it is spoken of as pressure, and again as stricture, but the most common word is *weight*. Sometimes the patient will say, "It seems to me I have a stone, or a mass of iron," and one lady said the other day, "I have an iron wedge in my stomach." Generally these sufferers attribute the sensation to weight of the food. An intelligent clergyman said, "I suppose my stomach has become exceedingly sensitive to pressure and the food pressing upon the surface which has become so tender produces this sensation of weight." This explanation is entirely at fault. Instead of being produced by the presence of a heavy mass in the stomach, in its most intense and unbearable forms I have found that it does not appear in connection with a full meal, but is much more likely to come on after eating a few mouthfuls of cracker, or fine flour bread, or a single hot biscuit. The patient may have ground it between his teeth with the greatest care, but soon after swallowing, this sensation of weight appears. More frequently, however, there seems to be no connection whatever with the presence of food in the stomach. The sensation

is not produced so much by what is in the stomach as by certain conditions of the walls of the stomach itself; in brief, it is produced by congestion of the walls of the organ. Accompanying this congestion there is generally an adhesive mucous poured out, which sticks to the surface of the inner coat. I may add, that this sensation of weight is nearly always a little to the right of the pit of the stomach, and that it is found that the congestion and adhesive mucous, which seem to stand in the relation of cause to this sensation, are found at the right or pyloric extremity of the stomach.

This sensation of weight is not relieved by stimulus. If it were produced by a load of food pressing upon the weakened walls of the stomach, a glass of whiskey or wine, which would arouse the flagging contractility of the stomach, would afford, at least, a temporary relief. Whereas it is found that the employment of alcoholic drinks only increases the trouble. Indeed, drunkards suffer more intensely from this sensation of "weight in the stomach," than any other class of dyspeptics.

The most striking relief, for the time being, is obtained from hot fomentations over the pit of the stomach. A mustard poultice applied over the stomach is very effectual.

Excesses in Eating.

"Sir Francis Head, in his humorous book entitled *Bubbles from the Brunnens of Nassau; by an Old Man*, expresses his astonishment at the 'enormous quantity of provisions' which the invalids and sojourners at these watering places 'so placidly consume;' and, after noticing 'the heavy masses which constitute the foundation of the dinner, and the successive layers of salmon—fowls—puddings—meat again—stewed fruit, and, lastly, majestic legs of mutton—which form the lighter superstructure,' he adds: 'Nothing which this world affords could induce me to feed in this gross manner. The pig which lives in his sty would have some excuse, but it is really quite shocking to see any other animal overpowering himself at mid-day with such a mixture and superabundance of food (p. 71). In another page he returns to the subject, and quaintly enough remarks, 'that almost every malady to which the human frame is subject is, either by high-ways or by-ways, connected with the stomach; and I must own, I never see a fashionable physician mysteriously counting the pulse of a plethoric patient, or, with a silver spoon on his tongue, importantly looking down his red inflamed gullet (so properly termed by Johnson "the meat-pipe"), but I feel a desire to exclaim, "Why

not tell the poor gentleman at once—"Sir, you've eaten too much, you've drunk too much, and you've not taken exercise enough!" That these are the main causes of almost every one's illness, there can be no greater proof than that those savage nations which live actively and temperately have only one great disorder—death. The human frame was not created imperfect—it is we ourselves who have made it so; *there exists no donkey in creation so overladen as our stomachs, and it is because they groan under the weight so cruelly imposed upon them, that we see people driving them before them in herds to drink at one little brunnēn*' (p. 91-2)."

"Professor Caldwell, of Transylvania University, Kentucky, in one of his vigorously conceived and very instructive essays, inveighs eloquently against the intemperance of his countrymen in eating as well as in drinking, and tells them that one American consumes as much food as two Highlanders or two Swiss, although the latter are among the stoutest of the race. 'Intemperate eating,' says he, 'is perhaps the most universal fault we commit. We are all guilty of it, not occasionally, but habitually, and almost uniformly, from the cradle to the grave. It is the bane alike of our infancy and youth, our maturity and age. It is infinitely more common than intemperance in drinking; and the aggregate of the mischief it does is greater.

For every reeling drunkard that disgraces our country, it contains one hundred gluttons—persons, I mean, who eat to excess and suffer by the practice.' How, indeed, he afterwards exclaims, can the case be otherwise, while children and youth are regularly taught, hired, bribed, or tempted, 'to overeat themselves from their birth! Do you ask me for evidence in proof of this charge? Go to our dining-rooms, nurseries; fruit-shops, confectioneries, and pleasure-gardens,—go even to sick-rooms,—and you will find it in abundance. You will witness there innumerable scenes of gormandizing, not only productive of disease in those concerned in them, but in many instances offensive to beholders. The frightful mess often consists of all sorts of eatable materials, that can be collected and crowded together; and its only measure is the endurance of appetite and the capacity of the stomach. Like the ox in rich pasture-ground, or the swine at his swill trough, men stow away their viands until they have neither desire nor room for any more. I do not say that such eating-matches always and every where occur among us. But I do say that they occur too frequently, and that they form fit subjects for caricature pictures by European tourists, of our domestic manners. I add, however, that similar scenes present themselves in every country I have visited, where provisions are abundant and cheap.' ”

"It is a trite observation, that medical men are constantly exclaiming against the eating propensities of their patients, and inculcating the practice of temperance. One of the most eminent physicians of the present day says: 'I believe that every stomach, not actually impaired by organic disease, will perform its functions if it receive reasonable attention; and when we consider the manner in which diet is generally conducted, both in regard to quantity and to the variety of articles of food and drink which are mixed up into one heterogeneous mass, instead of being astonished at the prevalence of indigestion, our wonder must rather be, that, in such circumstances, any stomach is capable of digesting at all. In the regulation of diet, much certainly is to be done in dyspeptic cases, by attention to the quality of the articles that are taken; but I am satisfied that *much more depends upon the quantity*; and I am even disposed to say, that the dyspeptic might be almost independent of any attention to the quality of his diet, if he rigidly observed the necessary restrictions in regard to quantity.' The latter opinion is obviously borne out by Dr. Beaumont's observation of the power of digestion being limited by the amount of gastric juice which the stomach is capable of providing—an amount varying with the wants of the system, and consequently with the mode of life."

"The stomach and bowels, in fact, are regarded very much as if they were independent powers residing within us, and placed there purposely for our molestation. So many heavy charges are continually brought against them, that they can scarcely ever be found in the right. They are blamed for every act of mischief which cannot be clearly proved against another organ ; and yet, influential as they are in affecting our comfort, they are treated by us with very little care or ceremony. Their powers and wishes are consulted in nothing, but their backs are loaded, at the caprice of their owners, worse, as Sir F. Head observes, than any pack-horse ; nevertheless we abuse them most emphatically when they sink to the earth overwhelmed by the weight imposed on them. They are, in short, the scape-goats which must bear all our physiological delinquencies, and save us the pain of blaming ourselves. If they feel uneasy after a heavy meal, it is not *we* who are to blame for having eaten it. No ! it is the *fish* which lies heavy on the stomach, or the stomach which is unfortunately at war with soup, or potatoes, or some other well-relished article. *We* have nothing to do with the mischief, except as meek and resigned sufferers. *We* never eat more than enough. *We* never devour lobsters, or oysters, or salmon, or cheese, or anything which experience has

told us our enfeebled stomachs cannot digest ! We are too prudent and self-denying for that. And yet, somehow or another, our stomachs get hold of all these things in spite of us, and we must pay the same penalty as if *we* had eaten them deliberately, and with malice prepense ! The case is hard, no doubt, that we cannot lead indolent and slothful lives, and yet enjoy the incompatible luxury of having the appetite of a rustic and the digestion of a tiger ;—but since we are so unfortunately constituted that we must act like rational creatures or suffer the penalty, would it not be a wise proceeding to set a better watch on the stomach, and try to subject it to more effectual control ? ”

“ According to this law of adaptation, which, of course, has its limits, the stomach may be accustomed to the reception of either a larger or a smaller quantity of food than what the necessities of the system require. If it is accustomed to too much, and less than usual be allowed, an unpleasant feeling of vacuity will arise, accompanied by a craving for more ; but after a few days the unpleasant sensation will disappear, and the feeling of satisfaction be as great as if a full meal had been taken, and digestion will become more healthy and vigorous ; whereas, if more food continues to be taken than what the system requires, merely to gratify the temporary craving, ultimate bad health will be the inevitable result.”

"How Much Shall I Eat?"

"I can't answer that question. You must answer it for yourself."

"But can't you help me to answer it? Can't you give me some test or rule by which I can arrive at the true answer?"

"Possibly. I will try. Perhaps I shall serve you best by giving you my own experience. For a long time I was in doubt about this matter of quantity.

I had tried the rule of Drs. Phillip and Paris, which is, that "one must attend to the first feeling of satiety."

I had likewise followed Dr. Hitchcock's rule, which is to eat of *only one course*.

I had read with earnest interest the advice of the celebrated Dr. Johnson on this point, which is, that every one must observe after dinner, and if he find from his sensations that he has eaten too much, he mustn't do it again.

All these opinions and teachings were interesting and helpful, but they didn't help me much just where I most needed help. I knew very well that, as a habit, I ate too much. I always knew when I had finished my usual dinner that I had eaten too much, and on more than one occasion, I was so vexed with

myself for the excess, that I thrust my finger in my throat and provoked vomiting.

I never had any difficulty in taking to the table with me the best resolutions, but the difficulty was, when I began to eat, the food tasted so good, and the company was so pleasant, that I forgot my good resolutions, and went on with one delicious course after another, till I ate twice as much as I could well digest.

The only rule which has ever served me is this :—

On sitting down at the table, take upon the plate all that you are to eat, and when that is finished, quit.

Fixing the mind on a definite point, it is easy to adhere to it, and then in this way you avoid desserts, and likewise the great variety which so tempts us on.

I have known many persons to try this rule, and, so far as I can now recall, not one of them has failed.

At home of course it is easy enough to manage, and away from home it does not excite observation; the beef, bread, potato, squash and turnip all come at once. When you have done with these you have eaten enough.

In addition to this, I advise but two meals a day. In regard to persons of sedentary habits, and persons of leisurely life, there can be no doubt that two meals a day are better than three. I have no doubt that the two meal system is likewise better for working men.

Let me illustrate. A man goes hunting. He takes with him a hearty lunch, but comes home at dark tired and faint. He is exhausted all over, and very naturally feels faint and gone at the pit of the stomach. His remedy for this is to fill the stomach with steak, fried potatoes, hot biscuit and butter. The next morning he can hardly stir, and makes certain deductions with regard to hunting which would not have been seconded by Nimrod. It was not the hunting which did the mischief. The system had been inflamed in every part by the attempt to digest an enormous supper with an exhausted stomach. The result was, the whole body was inflamed, and so was sore all over. He thinks it was the long walking; but if he had gone to bed after drinking a cup of tea and milk, he would have risen in the morning so bright and happy that he would have formed quite a different opinion of the healthfulness of hunting.

I knew a number of carpenters who tried the two meal system, eating nothing after one o'clock, taking at supper time a cup of milk and hot tea, and retiring early. Most of them were not only satisfied, but were enthusiastic over their clear heads and nimble muscles.

When the hard day's work is done, it is not the right time to fill the stomach with hearty food. The

stomach is as tired as other parts of the body, and should be allowed, with the residue of the body to rest, and not be put at six hours of hard work.

Working men should eat their last meal at twelve to one o'clock, and take nothing after that but a cup of tea and milk. At first, and perhaps constantly, a pint of this gently stimulating and nourishing drink may be taken at the close of the day. With this management, the working man's muscles and back will remain young much longer, while his brain and vision will be clearer and brighter.

I must not forget to remark further upon a point, which I think will occur to many of my readers.

It is this. Is it better to eat at noon, and go to work on a full stomach, or to wait till the day's work is done, and then do the eating? Several physiologists have advised, on physiological principles, to wait till the day's work is done, rest for an hour, and then take the principal meal of the day. This seems specious, and not a few have adopted it. But it is a mistake. As this is practically a very important point, I will give it a careful consideration.

One may eat a very hearty breakfast, and at once engage in hard work; no harm comes of it. No one even advises against going to work after breakfast. It is the dinner which is discussed in this regard.

Why is this so? Obviously, because digestion requires a certain amount of vital force. Early in the day there is enough to spare, after the brain and muscles are provided for. In the middle of the day, while the forces of physical nature are still high and strong, there is enough left to work, and, in addition, digest a good meal. But as night comes on, and the arms of nature are folded, and the man's vital stock is run out, there is nothing left to digest with.

He began the day with ten gallons of vital force. At noon there were five gallons left. At night the force is all drawn off. He hasn't a pint left. With some little refreshing, gentle stimulus, like a cup of weak tea, he must go to bed, and after eight hours' sleep, will have his ten gallon vessel full, and ready again. Now he starts with his ten gallons of nerve force for another day. It takes three gallons to do his work during the forenoon, and two gallons to digest his breakfast. During the afternoon he consumes three gallons for work and two to digest his dinner. Night finds his vessel empty, but ready to fill again during the eight hours of sleep.

My advice to all is this : *eat but two meals a day, and take the last one in the middle of the day.*

You can, if your stomach feels bad, in the evening, drink a little weak tea and milk.

Large Eaters.

They are almost always wanting in mental activity and physical endurance. I used to know a good man who tried hard to be a Christian, but failed because he ate too much dinner. By the way, this man was really a great curiosity. He superintended a small wood-turning establishment, sitting in the office constantly, except when he was eating, which was four times a day. And when he consulted me about his "poor stomach," and I told him flat that "he was a pig, — a victim of stuffing," he said, "Why, Doctor, you are altogether mistaken; I am faint half the time, and eat an extra meal to keep up my strength and relieve my faintness." I went at him with fact and physiology. At length, he was convinced, and promised me most solemnly that he would follow my prescription. It was this: "Eat but two meals a day. For breakfast a piece of boiled beef, half as large as your hand, a slice of bread, a baked potato, with cold water for drink. The breakfast should be taken at seven o'clock. For dinner use boiled or steamed beef, or mutton, as large as your hand, with bread and potato and a little of other vegetables at you pleasure; no dessert. Take no supper and go to bed early."

In fifteen days his faintness had disappeared, and he

was rapidly recovering. To-day he is a very healthy, active man, and a warm advocate of two meals a day, and very moderate ones. Temperate people, with healthy stomachs, never feel their stomachs, — forget they have stomachs : while these enormous eaters are always hungry, or faint, or bloated, or troubled with eructations, or acidity, or diarrhœa, or some other condition, showing a morbid and unhappy state of the digestive apparatus.

Nearly all the very strong men, and all the very active men with whom I have been acquainted, have been moderate eaters. The physiology of these remarkable facts is simply this : It takes a large amount of nerve force to digest food. With these prodigious eaters all the nerve force is in the stomach, and so nothing is left for brain or muscle.

Persons having a good stomach to begin with, can, by long practice, learn to digest an enormous quantity of food. If they give their whole force and vitality to this business of grinding grists, they can, in the course of even a short life, grind through immense quantities. But as a steady and regular and only occupation, it is hardly consonant with the loftiest ambition, and so I advise the other policy, pursued by such as have nobler aims and purposes in life. That other policy is to find out just how much food is needed to run the ma-

chine, exactly what fuel is best to keep the steam at the best working point, and then never pass these bounds.

I was astonished at the results of an experiment upon my own person. For years I had eaten three hearty meals a day. At length, upon a careful consideration of the physiology of digestion, I found I was probably using too much of my force in that function. I reduced to two meals a day, and to about one-half, altogether, of the quantity of food I had been using. I can't tell you what a freedom in mental and bodily activity I experienced. I know scores of men with large heads, and fine, vigorous bodies, who consume so much of their nerve force in digestion, that they have nothing left with which to achieve those grand triumphs which, otherwise, would be so easy to them.

The Squire's Indigestion.

"Old Squire H—— was a very successful and substantial farmer in an interior town of Massachusetts, and a more amazing eater never lived in any town anywhere. And especially much did he eat when fresh pork was to be his nourishment. Well, at a certain time one of his hogs had been killed. The next morning there was fresh pork for breakfast, and the old man ate most wondrously. In the course of the forenoon he ate his luncheon, consisting of bread and butter, mince pie and cheese. At noon his dinner consisted of fresh pork, pickles, mince pie, and the usual accompaniments. His afternoon luncheon was like that of the forenoon. When he came home to supper his favorite dish had not been prepared as part of that meal. The old man fretted and scolded till fresh pork was added to the substantials. He ate voraciously as usual. In the evening he toasted some cheese, buttered and ate it. Just before going to bed, he roasted a couple of apples and ate them. In the night he was taken with a severe colic. The doctor was with him till morning, and nearly wrought a miracle in the old man's life. The next day Bolles W——, one of his neighbors, went in to condole with the Old Squire.

"'Faithful Bolles,' said the old worthy, 'I like to have died last night. I'll never eat another roast apple as long as I live. I never did love them very well, and last night I ate only two, and they nearly killed me.'"

Abernethy's Receipt for Indigestion.

The subjoined, cut from an English paper, is severe to savagery, and, to some extent, unjust, but contains, nevertheless, a good deal of truth.

"Alden Gobble, a lover of misrule, was dyspeptic, and suffered great uneasiness after eating. So he goes to Abernethy for advice.

"'What is the matter with you?' asks the doctor.

"'Why, I presume I have got the dyspepsia.'

"'Ah,' said the doctor, 'I see; a Yankee—swallowed more dollars and cents than he can digest.'

"'I am an American citizen,' says Alden, with great dignity, 'I am Secretary to our Legation at the Court of St. James.'

"'Then,' said Abernethy, 'you will soon get rid of your dyspepsia.'

"'Don't see that inference,' said Alden; 'it don't follow from what you predicate at all; it ain't a natural consequence, I guess, that a man should cease to be ill because he is called by a free and enlightened people to fill an important office.'

“‘But I tell you it does follow,’ said ‘the doctor; ‘for in the company you’ll have to keep you’ll have to eat like a Christian. I never saw a Yankee who didn’t bolt his food like a boa constrictor. How can you expect to digest food that you neither take the trouble to dissect nor time to masticate? It’s no wonder you lose your teeth, for you never use them; nor your digestion, for you overload it? nor your saliva, for you expend it on your carpet instead of your food. It’s disgusting; it’s beastly! You Yankees load your stomachs as a Devonshire man does his cart—as full as it will hold, and as fast as he can pitch it in with a hay-fork; and then you complain that such a load of compost is too heavy for you. Dyspepsia! pòoh! It’s beastly guzzling you mean. I tell you what, Mr. Secretary of Legation, take half the time to eat that you do to drawl out your words, chew your food half as much as you do your tobacco, and you’ll be well in a month.’”

I should hardly venture to introduce such severe, almost savage denunciations from any other than the great and honest Abernethy. His earnestness was wont to take the form of fierce, passionate exclamation. Doubtless he may have employed the above coarse, bitter language.

Complaints of the Stomach.

I have often wondered what the stomach must say to itself while an ordinary meal is coming down. This stomach knows perfectly well what it needs. It asks at breakfast a moderate piece of steak, a slice or two of stale bread, and a baked potato. Now, just stand by and see what comes down. First, a great mass of greasy buckwheat cakes, now, a swash of scalding hot coffee, again buckwheats, more coffee, sausage, hot biscuit saturated with melted butter, buckwheats, coffee, sausage, hot biscuit, and so on and so on for half an hour. And here we have an enormous mass of hot, greasy, doughy, indigestible stuffs swimming in hot coffee.

The stomach asks at dinner, roast beef or mutton, with bread, potatoes and other vegetables. Now, what is the conglomeration that comes rushing down that red canal? Turtle soup, fish, beef, duck, plum pudding, pie, nuts, raisins, coffee, and several condiments; with this hotch-potch, ice water, ice cream and wine.

For supper, the stomach asks for nothing, and it gets hot biscuit, butter, cake, preserves and strong tea.

Boarding-houses are beginning to occupy a large

place in our city and town life. Delicate women, with scrofula, congregate in these places, gorge themselves after the above fashion, and for exercise wear a tight corset and sit over the register. I cannot think of but one good result that comes of this, and that is, a large class of very respectable citizens,—the doctors,—get a good living out of it. Ask one of them to let you look over his day book, and you will find ten charges for visits to women to one charge for a visit to a man.

‘That the prevalence of over-eating is a general error in society, especially among the sedentary classes, is strongly presumable, even without direct proof, from two almost characteristic circumstances—namely, the frequency of indigestion in one or other of its numerous forms, and the almost universal use of purgative medicines, with a view to remove from the system the superfluous materials which have been poured into it without any natural demand.

It is perfectly certain that, in the natural state of man, the bowels are quite able to act regularly without the aid of laxatives. If they are not, the Creator must have failed in accomplishing his aim—a conclusion at which no rational mind can arrive.”

Hard Struggle.

Dyspeptics, with morbid appetite, if intelligent, conscientious, and determined not to abuse themselves, are constantly engaged in a hard struggle, in a hand to hand fight. The dyspeptic sits at the table at each meal with a determined will, and gives his whole mind to it.

He says, now I will eat one dish of soup, a small piece of the beef, one spoonful of the potato, one of squash, a small piece of pie, and just a spoonful of ice cream. But his appetite is ravenous, the conversation pleasant; he forgets a little, his good resolution lets up; he takes just one more mouthful of pie, which turns out, of course, to be another piece, just the least bit of the pudding, which they all declare to be delicious, then another spoonful of ice cream; well, in short, he repeats for the thousandth time an excess, suffers, and so goes on for months and years.

This struggle of the dyspeptic always seems to me most pitiful. Eating was designed by the Good Creator to afford a real, unmixed pleasure. It is sad to see it changed into a bitter fight between appetite and conscience. Besides, this earnest effort of the will breaks in upon the pleasant flow and harmony of nature, and disturbs digestion. The whole trouble

grows out of a lack of common sense in the management of our meals.

What sense, I should like to ask, is there in this : Suppose a drunkard finds himself too weak to resist temptation, and he persists in keeping right before him the most delicious liquors, in placing right under his nose, several times a day, just that brandy which he never found himself strong enough to resist ! What an idiot ! we all should exclaim. Not only Miss Ophelia, but every one with five grains of common sense would cry out, " Why don't the fool keep away from it ? "

For one man who is spoiled with drink, a hundred are spoiled with pie, cake, and other similar trash. I join this common-sense party, and ask why they don't keep away ? Take, for example, the ordinary American family, consisting, say, of half a dozen persons. Nine-tenths of the dyspeptics of this country live in such families. Of these persons, constituting a large part of the population, not one in ten has a perfect stomach. Now, I ask, can't these people shun this sweet-meat and pastry temptation. Nothing is simpler and easier ; and I will add that few duties are more sacred and imperative.

The time will soon come when intelligent mothers will no more think of providing such stuff for their

children, than they would prepare whiskey slings for them.

Just now, we feel about these things as people used to feel about whiskey. Nothing mortified a good deacon more than to be caught with no whiskey in the house. What, no whiskey? If, when the minister called, our good deacon could not set out a decanter before him, he was poor indeed!

And now, when entertaining friends at your table, if you can't close the dinner with pudding and pie, or if you can't present them at the supper-table with preserves, cake, strong tea, and half a dozen other indigestible things, you feel it is "real mean." What! nothing but roast beef, potatoes and bread for dinner; and nothing but a plain sandwich for supper!

When we have finished our warfare with rum, we shall be ready for one with this other and more destructive enemy.

Medical historians have asked: "At what time in the history of the world was temperance first spoken of as a source of health?" It seems not to have been thought of until quite recently. The Egyptians ate all they could swallow, and took emetics once or twice a month. The world moves. Now half the people consider temperance as the principal source of health.

Sunshine and Health.

My Boston friend, Lysander Spooner, the author of that matchless argument upon the antislavery character of the Constitution of the United States, and of several ingenious and original papers upon government and banking, came to me several years ago in broken health. He seemed completely spent and crippled. For reasons which I will not here detail I advised the Sun-Cure. He was directed to lie down upon a mattress in an attic room, where the sun could fall upon his nude person, to continue this daily, and on each day two hours or more. A few months gave him a new lease of life, and although he was advanced in life at the time, he has since (now eight years) continued to enjoy better health than for many years.

Mr. Spooner cherishes the deepest interest in the subject of sunshine in its relations with health. Always zealous in every good word and work, he has collected from many sources striking illustrations of the power of the direct rays of the sun in restoring health, but still more in developing beauty and vigor. A number of the subjoined facts he has recently handed to me for the pages of this work.

A paper published by the "French Academy of

Science" says: "He also dwells upon the salubrious influences of sunshine. He mentions cases of patients whose broken constitutions were restored by continued exposure to the sun in gardens where there were no trees."

In the "Popular Science Review" for April, 1863, London, is the following, under the heading "*The Skin*":—

"The experiment of depriving the skin of air has actually been made on the lower animals, and the results show that the skin is a most important auxiliary to the lungs in the process of aeration of the blood, and that if its functions be arrested, as has been done by varnishing the fur of the rabbit, or gilding the skin of a pig, the unfortunate animal dies in a couple of hours or so, with all the symptoms which would be produced by a slow cutting off of the supply of air to the lungs:

"On one occasion, before this fact was known, the experiment was unfortunately performed on a child. It was on the occasion of the accession of Leo the Tenth to the Papal Chair. At Florence a child was gilded all over to represent the Golden Age, but died in a few hours, causing great astonishment and speculation, and, it may be added, superstitious feeling among the vulgar."

In those latitudes where the sun is most powerful we find the most powerful animals, such as lions, tigers, etc., while the hardest and finest woods, and the longest lived trees are likewise found in the tropics.

T. Robinson Warren says :—

' Ascending the river in canoes, we inspected some fine cocoa plantations and tobacco farms contiguous to it, until striking into the Cordilleras, our mode of progression changed from a canoe to a chair on an Indian's back.

"It is wonderful how these men will bear the traveller, day after day, without evincing the slightest fatigue."

Living in this region of sunshine and going naked, their bodies, like the bodies of the wonderful animals which are developed under the same influences, become miracles of strength.

Henry Bergh, "President of the N. Y. Society for the Prevention of Cruelty to Animals" says :—

"I have had an Arab of the Desert run behind my horse (doubtless an Arab horse at that,) a distance of twelve miles without betraying the least sign of fatigue, and the cheerful fellow never tasted meat."

"The runners of the nomadic tribes of Central Africa surpass anything done by the celebrated run-

ners and walkers of other races. When they carry government dispatches they sometimes run for days without sleep. * * * Their stock of provisions consists of a few dozen dates, and their whole costume of a pair of trousers."

Speaking of the Egyptians, Carleton says :—

"The men are capable of great endurance. They will run all day, at a mule's pace, without food or drink."

A lawyer friend, to whom I have just read the preceding statements, says : "I can testify in this case. I have a fancy for chickens, and have raised more than thirty different sorts. I have tried a great many plans of feeding, watering, roosting, etc., and can hardly say that I am settled about anything except this, — *chickens can't be raised in the shade. If the direct rays of the sun cannot reach them, they will die.*"

Lady Duff Gordon, in "Nubian Beauty," says :—

"It is worth while going to Nubia to see the girls. Up to twelve or thirteen they are neatly dressed in a bead necklace, and a leathern fringe four inches wide round their loins ; and anything so absolutely perfect as their shapes, or so sweetly innocent as they look,

cannot be conceived. The women are dressed in drapery like Greek statues, (*i.e.* naked,) and their forms are as perfect.

"If you have any power over any artist, send him to paint here; no words can describe the picturesque beauties of Cairo, or the splendid forms of the people in Upper Egypt, and above all in Nubia. I was in raptures at seeing how superb an animal man is."

An intelligent gentleman went to California across the plains. In his outfit he had a pair of baptismal pants, as they are sometimes called, — long rubber pants coming up to the waist. These were designed to protect him in fording the streams. He told me, as a remarkable fact, without any theory to explain it, that whenever he wore those pants several hours, he was sure to suffer from severe headache and thirst. On one occasion, after wearing them all day, he was kept indisposed for three days, with symptoms of typhoid fever.

A garment of rubber cloth, fitting the person tightly all over, would destroy life in a few hours. Even a pair of common rubber boots are apt to produce headache.

How quickly we all begin to think upon listening to such facts, of the importance of porous clothing and

frequent baths. With this physiological idea before the mind, I have long advised the frequent use of soap in baths, and in my own habits, I may add; that I use it all over the person morning and evening. I do not, twice a month, omit it.

In this connection I ought to speak of the importance of flannel next the skin. At all seasons of the year it is very important.

A Boston newspaper gave the following :—

"It is said that among two millions of people who reside in Yeddo, Japan, there is not a beggar in the streets, not a drunkard, not a ruffian. The women are beautiful, the men are robust and energetic, there is no trouble about fashions, education is universal, books are plentiful, though there are no newspapers, life is simple and easy, marriage is universal, and children go naked." Many of the grown people go naked, or nearly so.

The London Times, in giving an account of the opening of the Suez Canal, says :—

"It would take the conceit out of the grand European, who fancies he is the flower of the human race, to walk through a crowd of Arabs, and measure their stature and breadth of shoulder. Their drink is water, their food millet, maize and vegetables."

The great source of their vitality, however, is the sun and the pure air of the desert.

An article in a New York Magazine says :—

"Our old ancestor, (we remember it well,) used to sun himself by the hour for many years. He reached the great age of ninety-seven, and his father, who was equally a worshipper of the sun, and basked daily in its rays, lived a hundred years."

A Cincinnattian travelling in Egypt tells us how the donkey boys will run after their donkeys, keeping up with them as they carry travellers. He says :—

"These boys, and, indeed, the out-door Arabs generally seem insensible to fatigue. Our boys, when we neared Cairo on our return from the pyramids, seemed as fresh-winded as in the morning. I said to one of them, "Do you never get tired?" He answered, most emphatically, "No, never!" The runners in front of fast carriages are as fleet and untiring as the carriage horses.

"At the pyramids a lame Arab entreated me to hold my watch and see him run up the pyramid and back in ten minutes. For a shilling he no doubt would have done it."

The horses of the desert, living in the blazing sun and pure air, are miracles of activity and endurance. Upon a very scanty fare, they are expected to accomplish, for five or six days in succession, a distance of one hundred and twenty-five to one hundred and fifty miles a day, and after a couple days' rest and good feeding, will return at the same speed.

It is not a very rare occurrence that a horse carries a man one hundred and eighty miles in twenty-four hours.

The following is from my former work "Weak Lungs and How to Make Them Strong":—

"Many years ago, a clergyman who had for years been a victim of dyspepsia, and who had prayed for death, as the only door of escape, came, through the advice of a mutual friend, to consult me. I advised the disuse of all medicines, the generous use of cracked wheat, good beef, and much exposure to sunshine. To secure the last-mentioned influence, I directed him to enclose twenty feet square in his garden with a close fence, and plant the ground within with something, the cultivation of which would occupy his mind. Then, when the weather was warm, shutting himself in, he was to busy himself, *quite nude*, with the cultivation of his vegetables, from ten to sixty minutes a day. . *He was radically cured.*

"I was practicing my profession in Buffalo, New York, during '49 and '51, those memorable cholera seasons. I saw at least five cases of cholera on the shady side of the street and houses, to one on the sunny side.

"Who has not read Florence Nightingale's observations in the Crimea, showing the difference between the shady and the sunny sides of the hospitals? In St. Petersburg the shady side of the hospitals was so notoriously unfavorable to the sick soldier that the Czar decreed them into disuse.

"The shade-trees about our dwellings have done much to make our wives and daughters pale, feeble, and neuralgic. Trees ought never to stand near enough to a dwelling to cast their shade upon it; and if the blinds were removed, and nothing but a curtain within, with which to lessen, on the hottest days, the intensity of the heat, it would add greatly to the tone of our nerves and to our general vigor. The piazzas which project over the lower story, always make that less healthy than the upper story, especially for sleeping purposes. I am sure I have cured a great many cases of rheumatism by advising patients to leave bed rooms shaded by trees or piazzas, and sleep in a room and bed which were constantly dried and purified by the direct rays of the sun."

Light and Digestion.

Very intimate relations exist between the sun and digestion. Digestion and assimilation become weak and imperfect if the man or animal is not daily exposed to the direct rays of the sun

Mr. P., one of our merchants, came to see me about his stomach. Dyspepsia was written all over his face, was shown in his movements, and heard in his voice. The conversation between us was essentially the following :

MR. P. "Doctor, if you will excuse a street vulgarity, I am 'played out.' I can't digest, I can't work, I have lost my courage, I fear I must stop."

"Tell me about your diet "

"If you will excuse me, I know that is all right. I have studied the subject, and I know my food is all right."

"How about your exercise?"

"I have a little gymnasium in my store, and exercise an hour or two every day. I sometimes tire myself out with these exercises."

"How about your sleep?"

"Why, doctor, I go to bed every night with the chickens. At any rate, I am always in bed by nine o'clock, and I rise by six o'clock in the morning, take

a bath, a plain breakfast, and go to my counting-room. Once in the forenoon and once in the afternoon I exercise in my gymnasium half an hour or so, but I am getting worse and worse all the time. Isn't it curious? My wife thinks I must have a cancer in the stomach. Nothing seems to help me. I live the most physiological life, but my digestion grows worse and worse."

"About your counting-room; is that light? is it sunny?"

"No, that is one nuisance we have in our store. The store is every way pleasant, only that the counting-room is so dark that we have to use gas nearly all the time."

"That's it, Mr. P., that explains your cancer."

"Of course you don't mean that; but I suppose it would be better if the counting-room was sunny."

"Why, Mr. P., no plant or animal can digest in the dark. Try it. Plant a potato in your cellar. Now watch it carefully. If there is a little light, that potato will sprout and try to grow. But surround it with the best manure, water it, do the best for it, only you shall keep it in the dark, it cannot digest and grow. See how slender and pale it is. Now open a window in another part of the cellar and notice how the poor hungry thing will stretch that way. Or give

the stalk a little twist and see how it will lie down. It has no strength to raise itself again. No matter how much of the best food and drink you give it, it can't digest. The process of digestion, the great function of assimilation can't go on without the sunshine.

"Why, sir, with your excellent habits, if your counting-room were in a flood of sunlight, you would be better in a week, and well in a month.

"Mr. P., did you ever go into the country late in the summer? Of course you have been. Well, did you never notice, where grain is growing in an orchard, that the part under the trees is smaller than that outside and away from the trees? The land is actually richer there. For years the leaves have fallen and decayed under the trees, but, notwithstanding this, the wheat is only half size and never fills well. Now what is the difficulty? The sun shines upon it more or less. Yes, that is true, but that under the trees does not receive as much sunshine as that away from them. That which is thus partly in the shade can't digest so well.

"Why, sir, if you will move your counting-room up stairs, in front, and stand where the sun can have a chance at you, even though it is only three or four hours a day, you will begin to digest your beef better within three days.

"Have you never noticed that the only grapes that become perfectly ripe and sweet, that the only peaches that take on those beautiful red cheeks, and offer that luscious sweetness, are those that are on the outside, entirely uncovered by the leaves and perfectly exposed to the sun? God's laws are the same in the animal world. It is just as true that the only girls with red cheeks and sweet breaths, the only girls who become fully ripe and sweet, are those who baptize themselves freely in God's glorious sunshine.

"Don't you see a good many pale girls in your store, girls with a bloodless, half-baked sort of face, whose walking, whose voice, whose whole expression is devoid of spirit and force? Those girls are in the green state. Look at their lips and cheeks; they are not half ripe. Send them out in the country, let them throw away their parasols, put on their little jockey hats, and live out in the sunshine three months, and I would give more for one of them in any work requiring soul and spirit, than for a dozen of those pale things that live in the shade. A pale woman! She makes a very good ghost, but not much of a woman.

Persons have been known to lose their vision when the sun went down, not being able to see until it rose again.

Regularity in Eating.

If there is one rule about eating in which all persons are agreed—it is, that our meals should be taken at stated and regular periods. People may differ about vegetarianism, about sweets, about pies and cakes, about tea and coffee, but I have never met a person who would insist that *regularity* was of no consequence,—that it was just as well to take two meals to-day and five to-morrow, to take dinner at one o'clock to-day, three to-morrow, and five next day. Without understanding the physiological law, all are satisfied that regularity is important.

A long journey by rail does not derange the stomach because of long sitting in an unventilated car, for the traveller may occupy a still worse place in the pursuit of his business at home; neither is it because of the character of the food furnished at the railway lunch rooms, for the food at home is often worse; but the stomach derangement which nearly always comes with the long railway trip is, in great part, to be traced to irregularity in the times of eating. In a recent trip, we took breakfast the first morning just after daylight, next morning at half-past nine o'clock, the next at seven, and so with the other meals; only one day we had no dinner at all. In less than a week we were all

suffering indigestion ; some were conscious of no discomfort in the stomach, but not one of us escaped the dullness and depression of spirits which come of imperfect digestion.

Among the table laws, this one of regularity is pre-eminently important.

How strangely oblivious of this vital condition mothers are with reference to the feeding of their babies during the nursing period. If the baby worries, the mother puts it to her breast. If it cries from hunger, she gives the same remedy ; and if it cries from colic produced by a surfeit, the same remedy is employed. If it cries because a pin sticks in its back, the mother says, " Give it to me ! give it to me ! give it to me ! " and its bawling mouth is filled. A child cries from lying too long in one position, from tight clothing, from heat, from cold, from fifty causes, and the mother treats every cry with one remedy — a dose of milk. The little sufferer, in its unreasoning eagerness for relief, goes on sucking every time. For a few moments the new sensation relieves the old one ; besides, there is a universal instinct to do something when we are in pain, and as the baby has learned to do but one thing, it will contrive to do this one thing on all occasions, no matter though its stomach is already so full that on adding a single spoonful it must run over.

If you would preserve your baby in health, give it nourishment with perfect regularity as to time. How often? you will ask. It is not always easy to answer that question. During my professional experience I have tried to arrive at an answer to that very reasonable and practical question. My best judgment is, that up to six months of age a baby should nurse once in three hours, and after that, until it is weaned, once in four hours. A baby should have nothing during the night. If denied for a week, it will almost invariably sleep all night; but if, when it worries, the usual mouthful is stuffed into its open mouth, you have begun the most ingenious of all expedients to make it troublesome during the night. In many hundred babies whose nocturnal restlessness has been brought to my notice, I have advised abstinence during the night; and always, when managed with a little patience, the result has been most satisfactory to all concerned. Many old nurses who have pooh-poohed at "this new-fangled notion of a doctor who don't know nothin' about it. How many children has he nursed I wonder?"—many such, upon seeing this plan of raising children tried, have become its warmest advocates. I recal one old, ignorant, obstinate Irish nurse, who used, at first, on entering the service of some of my patients, to say, that she didn't believe babies were

such fools, that they didn't know when they were hungry. She gave me a great deal of trouble for awhile ; but when a sensible mother adopted the intervals of three hours during the day, and total abstinence during the night, the baby became so very quiet, and gave Margaret so good a chance to sleep, her interest was aroused, and, at length, she was converted, and every baby was the " best baby that ever lived, bless its little heart."

While on this point, I must say something of the diet of bottle-fed babies. Milk is the only article which will alone permanently sustain human life. It is the only one which contains all the elements found in the animal body. There is no doubt that milk is the proper food for infants. The hundred and one substitutes which are sold at the drug stores and groceries, (of which, preparations of arrow root are good samples,) are but poor, cheap, unsatisfactory stuffs.

Babies must have milk. But it disagrees with them, they vomit it, and suffer from fever and diarrhœa. In other words, they can't digest milk. This common difficulty is what I want to explain. I have seen a good many bottle-fed babies sicken and die on a milk diet, and where the diet was clearly the cause of the sickness. But I have never seen a case in which it
... was not possible to manage milk so that when the little

one could take nourishment at all, this was not the best for it. The common error is this: The child's organism is adapted to milk with a very small percentage of oil or butter, viz.: its own mother's. When the mother for any reason is unable to furnish the child its own natural and proper nourishment, the little one is fed on cow's milk, which contains five times as much oil or butter. It generally vomits a large part of it, but even the part retained is too rich for its little weak stomach. This oily richness of cow's milk is the common difficulty among bottle-fed children.

What is the remedy? Is it to abandon milk, and feed the babe upon some such stuff as arrow root? Certainly not! The best management, generally speaking, is simply to dilute the milk with pure soft water. The degree of dilution must be determined in each case by experiment. Try, first, the addition of a quantity of water equal to the milk. It is quite rare that the proportion of water should be less than this. Frequently, the quantity should be three or four times as great as the quantity of milk. And if the little one still vomits, give instead of milk at every feeding, once or twice a day, buttermilk. This is particularly grateful to most sensitive stomachs. If, notwithstanding this management, there is derangement of the digestive apparatus, try, occasionally, diluted

cream, for there are often found conditions of the stomach, in these half motherless ones, with which the cheese matter of cow's milk does not agree.

With these suggestions, no intelligent nurse or mother should be at a loss in bottle-feeding an infant.

Andrew Combe says :—

"It is astonishing, indeed, with what exclusiveness of understanding, eating is regarded even by intelligent parents as the grand *solatium* or *panacea* for all the pains and troubles which afflict the young. If a child falls over a stone and bruises its leg, its cries are immediately arrested by a sugar-biscuit stuffed into its open mouth. If its temper is discomposed by the loss of a toy, it is forthwith soothed by an offer of sweetmeats, the ultimate effect of which is to excite colicky *pains in its bowels, which are worse than the original evil, and for which, in their turn, it is presented with 'nice peppermint drops,' or some other equally pleasant antidote. Because the mouth is open when the child is crying, and the mouth leads to the stomach, parents jump to the conclusion that it is open for the purpose of being filled, and proceed to cram it accordingly ; forgetting all the while that the mouth leads also to the windpipe, and may be open for the admission of air to the lungs as well as of food to the stomach,—and that if they stuff it with cake or pudding

when it is open only for the reception of air, they run the risk of suffocating the little innocent when their only wish is to soothe him. Everybody must have seen fits of convulsive cough induced by fragments of food being drawn into the windpipe in such circumstances.

"To confound crying and the expression of pain with the cravings of hunger, is far from being a matter of indifference to the child. If food be given when it wishes only to be relieved from suffering, the offending cause is left in activity, and its effects are aggravated by the additional ill-timed distension of its stomach. But so far is this important truth from being sufficiently impressed upon the minds of parents and nurses, that nothing is more common, when the infant refuses to swallow more but still continues to cry, than to toss it in the nurse's arms, as if on purpose to shake down its food, and then resume the feeding. And in such attempts, it is too true that the perseverance of the nurse often gets the better of the child, and forces it at last to receive the food at which it really loathes.

"Let appetite, then, be the only rule, but allow it to appear, and do not attempt to provoke it. The breast ought not to be offered to the infant; it is for him to seek it. He has little need of sucking who takes it with indifference, or as if he were conferring

a favor. He who is hungry acts very differently; all his gestures express clearly the want and the desire; his eye follows his nurse, and tries to interpret her every movement. If he is crying, his cries cease at her approach, and smiles replace his tears. If he is offered the breast, he seizes it with ardor, and the mother yields to a natural want.' But it is far otherwise when real appetite is wanting, and 'it then becomes an act of cruel perfidy to tempt the infant by the offer of the breast. How can it be expected to resist the temptation, when the adult, whose appetite is already satisfied at the festive board, yields to the solicitations of the host, and gorges himself with aliments which he cannot digest?'

"The same intelligent author remarks, that the lower animals instinctively avoid this error, and, instead of offering suck too often, rather allow themselves to be strongly solicited before yielding to the wishes of their young. By this provident arrangement, the latter are protected from the evils of too frequent eating. Many mothers imagine that milk is so bland a fluid that it is impossible for an infant to take too much of it; but the fallacy of the notion is exposed, when we recollect that milk is coagulated the moment it reaches the stomach, and that the real subject of digestion is *curd*—a substance not quite so light as milk.

Recreation and Digestion. *

Ah, when shall we learn where to seek for happiness? We run mad after money, believing it is there. Look at A. T. Stewart's wretched face.

We toil and struggle up the mount of fame, and on its very crest we find a few victors, pale, worn, wretched.

Look around you at the wrecks that have sought happiness in the pursuit of pleasure. Gout, delirium tremens and a score of other fiends torture and deride them.

But is there no happiness on earth? Aye, God has so contrived this harp of a thousand strings, that upon it the harmonies of heaven may be played.

But the instrument must not be broken. Although it cannot play upon itself, if in the most perfect condition, even the angels cannot evoke harmonies if the harp be broken or out of tune.

Leaving out of sight the visions of Heaven, which may lift one far above the petty trials of this life, there are sources of happiness of an earthly nature which are rich and sure. As I have intimated, the harp must be in tune. If the body be in health, — if the brain and nerves be at peace with their neighbors, and the circumstances favor a happy, social life, there

is open to us a fountain of joy in rational, social amusements and recreations.

Robert Chambers, in discussing recreation, says ; —
“ There are several powers of the mind which must have been designed for the express purpose of creating and enjoying amusements, and the existence of which, therefore, shows that amusement has a place in the right economy of human life. The imitative arts, music, fiction and drollery of all kinds spring directly from primitive faculties of the mind ; and when we see the pleasure they give in society, we cannot doubt they are things naturally required by man, and in which it is quite legitimate for him to indulge, within moderate bounds and in circumstances compatible with innocence. These things are doubtless designed to alleviate the burdens of life and beguile us of its cares. They furnish something like a different sphere of existence, into which we may enter and temporarily lose the sense of all that harasses us in the ordinary one. The jocular, under which name our ancestors associated the poet, tale-teller and mimic, and which we may apply equally to the poet, novelist, artist and player, is therefore a most useful functionary in society.”

Sleep and Digestion.

"From eating comes sleep, from sleep digestion." —
Sanctorius.

"Sleep is the mother of digestion." —*Blundeville.*

"Nothing more contributes to digestion than sleep."
—*Barry.*

"The brute creation invariably lie down and enjoy a state of rest the moment their stomachs are filled. People who are feeble digest their dinner best if they lie down and sleep as most animals do when their stomachs are full." —*Darwin.*

Dr. Harwood fed two dogs. Then one slept and the other ran. In two hours both were killed. The one which had slept had completely digested his food; in the stomach of the other the process of digestion had hardly begun.

"Quiet of body and mind for two hours after dinner is certainly useful to the studious, the delicate and the invalid." —*Adair.*

"After dinner rest for three hours." —*Abernethy.*

"After dinner sit awhile." —*English Proverb.*

"Always rest after a meal, and do not disturb the mind with thinking." —*Celsus.*

"If you have a strong propensity to sleep after dinner, indulge it, the process of digestion goes on

much better during sleep ; I have always found an irresistible propensity to it whenever dyspeptic symptoms were considerable." — *Waller*.

"Aged men and weake bodies a short sleepe after dinner doth help to nourish." — *Bacon*.

Chambers says : "We should indulge in the muscular and mental repose which is demanded, and this should last for not much less than an hour after each meal."

The same acute observer says, in discussing this subject of rest in its relations to digestion, that a short period of repose, or at least very light occupation, should be allowed before every meal.

In my own personal experience, I have always observed that an hour or an hour and a half of rest before dinner contributes more to the completeness of digestion than the same rest immediately after eating.

It is very important, as remarked in another place, that the time given to the meal itself should be ample. Every minute saved to business, by hurrying the eating, is an investment, which, instead of paying a profit, involves a great loss. If possible, be talkative and social. If you can't tell a good story yourself, you can purchase the funny papers and read the jokes, from time to time, during the meal-time.

What Causes the Feeling of Hunger.

It was thought for a long time that the sensation of hunger was produced by the gastric juice attacking the coats of the empty stomach. When food was present the stomach juice was busy with that; but when the food had passed on and left the stomach empty, the powerful solvent attacked the stomach itself. It was thought that this produced the gnawings of hunger. But when it was found out that not a drop of this gastric juice was furnished while the stomach was empty, that theory was abandoned.

Dr. Beaumont, who enjoyed the rarest opportunities to study the functions of the stomach, suggested that the feeling of hunger was probably owing to a distended state of the vessels which furnish the gastric juice. And he thought this view was greatly strengthened by the prodigious rapidity with which the juice is poured in upon the first introduction of food, showing, as he argues, that the juice was already existing and waiting in the vessels or follicles which furnish it.

Again, physiologists have thought the feeling of hunger was caused by the two sides of the empty stomach rubbing against each other.

But these and various other explanations which have reference to the condition of the stomach alone, fail to

recognize the *systemic* want which is the real cause of hunger.

Let me illustrate. I have eaten but two meals a day for many years, — one at half past seven A. M., the other at one o'clock P. M. Between my dinner and the next morning's breakfast is eighteen hours. During twelve of these, I presume, the stomach is empty; but I never feel the sensation of hunger. I have induced hundreds to live in the same way, and, after a few days, not one of them feels the sensation of hunger.

A gentleman, now prominent in the field of health reform, was in my service some years ago as a teacher of gymnastics. He worked very hard, and evinced remarkable endurance. Now, when I state that he ate but one meal a day and never suffered from hunger, it will be seen that the above theories fail to explain the sensation under consideration. The stomach must have been empty eighteen to twenty hours out of every twenty-four; but, notwithstanding this emptiness, the gastric juice did not gnaw the lining coats, the vessels were not painfully distended, nor did the coats of the stomach rub against each other, producing the discomfort of hunger.

A man is hungry all over, his legs not less than his stomach. The feeling in his legs is restlessness, but

the stomach is endowed with a peculiar sensibility, so that hunger in that organ is a faintness and gnawing. The hunger is not dependent in the least upon the emptiness of the stomach. For example, a man is convalescent from a fever. He has lost thirty pounds. The demand for nutriment is urgent. This man may fill his stomach with baker's bread and potatoes, his hunger is not appeased, for, although his stomach is distended, the *systemic* want is not met, and his appetite continues.

A striking illustration of this dependence of the local upon the general is found in *thirst*, which is felt mostly in the throat. If a tube be carefully introduced through a dog's side into the stomach, and the dog, when very thirsty, be allowed to thrust his head into a tub of water, he will go on drinking for an hour, stopping only a moment to rest and take breath. The throat is flooded; but, as the feeling of thirst is dependent on a want of the system, and the water running out of the stomach through the tube fails to satisfy this want of the system, so the thirst continues, though the animal may have swallowed gallons. But, if we inject a quantity of water into a vein of the leg of this thirsty dog, the feeling of thirst in his throat, though it has not been touched by a drop of water, will speedily disappear.

Bernard made an opening into the œsophagus of a

horse, tied the lower portion, and then allowed the animal to drink. He drank an immense quantity, but the water not passing into his stomach, the thirst was unquenched.

Dr. Gairdner, of Edinburgh, reports an interesting case, — that of a man whose throat had been cut and the œsophagus divided. The thirst, in this case, was insatiable, though many gallons of water were drunk in a day ; but when a little water was injected into the stomach, the sensation was soon relieved.

Morning and Evening Water-Drinking.

A certain amount of water is necessary to carry on the functions of the animal economy. During the season of active perspiration, the quantity is considerable.

When shall this water be taken into the system? It may be introduced during the day, when thirst requires ; but it is a capital practice to introduce a quantity on first rising in the morning, and on going to bed at night. Thousands of dyspeptics have derived signal relief by drinking one, two or three tumblers of water on rising in the morning, and on going to bed at night. I have sometimes thought, on hearing the testimony of these dyspeptics in regard to the influence of cold water thus taken into the stomach, that, perhaps, of all baths, this is best.

Heart-Burn.

The stomach, in certain conditions, seems to send up an acid gas, or "smoke," as some express it, and again, sometimes a little acid water which burns the throat. To such symptoms the term *pyrosis*, *water-brash*, or *heart-burn* has been applied. Such symptoms are rarely present in grave stomach derangements, but are often found in the incipency of dyspepsia, and not unfrequently in persons with ruddy faces and other evidences of high health. If the sufferer goes on from bad to worse, these initial indications pass away, almost never continuing into the period of emaciation and debility.

The number of persons suffering from heart-burn or water-brash is very large. In a ladies' seminary I asked how many suffered more or less with heart-burn, and more than half the hands went up. It is a very common affection, and is the introduction to graver forms of indigestion. It should not be treated either with indifference or alkalies, but by the observance of the following suggestions. Avoid soups; drink nothing at your meals; say "No, thank you," to the pie and cake, and go without your supper.

Treatment of Water-Brash or Heart-Burn.

The means most commonly employed by the ignorant is the use of some alkali to neutralize the acid. A little soda, for example, relieves the sufferings at once. But this chemical remedy is not a good one, for it seems in some way not, perhaps, easy of comprehension, to insure a return of the malady. Strange to say, the opposite course appears to be more successful, viz. : the employment of small doses of acids. I have known persons who had suffered long from water-brash, to cure themselves by the daily use of a little vinegar, or a few drops of lemon juice after each meal.

Mr. J., a college student, consulted me, during his junior year, for a most distressing heart-burn. It seemed to me a case in which a cure might be effected on the Homeopathic law, and I prescribed twenty drops of lemon juice to be taken at the close of each meal. He called upon me several months after, to say that it not only had cured him, but that he had resolved himself into a doctor among his fellow-students, who happened to suffer from heart-burn, and that lemon juice was known as a good remedy throughout the whole institution. I must not omit to mention that I advised my patient not to drink anything at his meals, nor within two hours after eating. He had, in pre-

scribing the lemon juice for pyrosis, been careful to urge the omission of drinks at and immediately after meals, and likewise the avoidance of soups. In fact, sufferers from the malady under consideration may obtain relief by a dry diet.

In speaking of the employment of alkalies in acidity of the stomach, I forgot to say that the saliva, which is alkaline, affords some relief. I have, for a good many years, been in the habit of advising my patients, who might be temporarily afflicted with heart-burn, to chew spruce gum and swallow all the saliva. It affords the most grateful relief, and is not obnoxious to the same objection which may be urged against soda, saleratus and other strong alkalies. •

Of course, the cure of this affection is to be sought in the discontinuance of that table error which produces it. It is not easy, in round terms, to say what this error is. But the discontinuance of drinks at meal time, and of liquid foods will generally afford relief. It may be necessary to discontinue pastry, fat meats, and butter. It would be a rare case that did not give way at once under a beef and bread diet, drinking only water, and that, so far as practicable, on rising in the morning and lying down at night. At these times it may be taken ad libitum.

Colds.

The old saw, "Stuff a cold and starve a fever," has been the source of infinite mischief. When you have taken a cold, and have some local inflammation, as, for example, a nasal catarrh, or an inflamed throat, it is just as improper to eat quantities of stimulating food with either of these local inflammations, as with any other inflammation. If, for example, the cold assume the form of pleurisy, no one proposes to feed it on beef and mince pie. But I see no reason why a pleuritic stitch may not be fed upon beef, if lungs inflamed by a cold may be.

When you are attacked again with a hard cold, treat it as follows, and your faith in the old saw will quickly disappear :—

I will suppose you have a hard cold which produces irritation of the eyes, or a sore throat, or hard cough. There is a feeling of stricture or tightness across the upper part of the chest, and you are about half sick. Eat no supper. On going to bed drink two tumblerfuls of cold water. Rise early in the morning and drink as much cold water as you can swallow. For breakfast eat a piece of dry bread as large as your hand. Go out as much as practicable in the morning. For dinner eat about the same as you ate at breakfast.

During the forenoon take a sharp walk, or engage in some active exercise which shall produce a little perspiration. Go without your supper, and retire early, drinking, before you jump into bed, as much cold water as you can swallow. The next morning you are nearly well.

Now, instead of this course, suppose you feed the cold. It will stay with you a week or ten days, and wind up with a hard cough and expectoration.

This feeding the cold belongs to the same chapter with that stupid advice which prescribes whiskey in consumption, which disease is always accompanied by a rapid pulse and other indications of inflammatory action.

By the way, speaking of colds, I am reminded that I ought to tell you something about the nature of this affection. A cold is not, as many think, the result alone of exposure to a sudden change in the atmosphere.

Don't you know you sometimes say, when exposed to cold or damp, "Now, I shall take my death cold"? and yet, next morning you are astonished to find that you have no cold. At another time you have a hard cold, and you say, "Dear me, how did I take this cold? I am sure I have not exposed myself. When I went out last evening I wore my overcoat. * I can-

not understand when I took this dreadful cold." These familiar facts ought long since to have suggested to us that colds depend but little upon external changes in the atmosphere.

A cold is the product of two factors ; one is a certain condition of the within, and the other is a certain condition of the without. The only soil in which this plant can grow is a certain condition of the system, the prominent feature of which is a deranged stomach. Those who have good digestion very rarely have colds. So, to prevent colds, you must keep your stomach in good condition ; in other words, must keep yourself in high health.

There are some habits which give a special tendency to colds. For example, the use of hot drinks, which, in addition to flooding and weakening the stomach, open the skin, and increase thereby sensibility to the influence of external changes. The use of warm baths, especially warm foot baths. Sleeping in close, unventilated rooms. Wearing the same flannels during the night that have been worn during the day. Using too much fat meat and pastry, thereby deranging the stomach and liver.

Old Age and Good Health.

Every person of remarkable longevity, whose habits I have studied, retired to rest at an early hour. He may have transgressed other laws of health, — for example, he may have used spirits and tobacco moderately ; but I have read of no long liver who habitually sat up till a late hour, and I may add that, among them all, I have never read of a large eater.

Eat right and sleep right, and you have the two fundamental conditions of health and long life. Establish these two sources of life as fixed habits, and, if you get drunk once a month and smoke five cigars a day, you may, notwithstanding, live a long life in the enjoyment of good health. But sit up in furnace-heated rooms till eleven o'clock, and eat the quantity and quality of food consumed by people who believe in a short life and a merry one, and you may rest assured that the yearly trip to the mountains, a month's guzzle of Saratoga waters, and the attentions of a fashionable doctor, — all put together, — will fail to save you from early wrinkles, early loss of sight, premature gray hair, and a short life.

Then, do you ask me how you can reach eighty-five in the enjoyment of all your faculties?

I reply, go to bed at nine o'clock and eat twice a day a moderate quantity of plain food.

Division of Time, Sleep, Etc.

Probably no better division of time has ever been made, than that into three equal periods of eight hours each ; eight hours being given to business, eight to eating and amusements, and the remaining eight to sleep. The celebrated Alfred divided his time in this way.

I have long thought that the native American requires more sleep than the average European. For myself, I find that nine or ten hours of sleep in a single night will cure me of all the trifling maladies with which, from time to time, I may be afflicted. Some extraordinary advice has been given, by certain distinguished persons, with reference to the time devoted to sleep ; but each writer falls into the common blunder of applying a rule to all, which he finds good in his own case. Bishop Taylor advises three hours. Wesley suggests six as the least time that will answer. He declares that during his life he never knew any one to retain vigorous health, even for a year, with a less quantity of sleep than six hours, and he thought that women required more than men.

Willich advises students to go to bed at eight o'clock, and rise at three or four o'clock in the morning. Not bad on some accounts, but liable to injure the eyes.

Excess of sleep is very bad in its influence, produces dullness of mind and body, corpulency, disposition to apoplexy; hence, Galen calls sleep the brother of death, and says nothing is more pernicious when carried to excess.

Thin Yankees should go to bed at nine o'clock, and rise between five and six. I do not mean to say that circumstances may never justify their sitting up till midnight, or later, but I am simply interpreting the voice of physiology. If the average American, with his narrow chest and small vitality would retire at nine o'clock, he would live some years longer, and each year would afford him more happiness, and ability to work.

But Yankee women most need a change to early hours. Their crazy nerves, neuralgia and other evidences of premature decay, would at once be checked, and they would become younger and fairer.

What with tight corsets, pastry, candies, furnace-heat and midnight, Yankee girls begin to fail at twenty, and women are old at forty.

The School at Lexington.

I must tell you a little story. Seven years ago, after having studied this bad system of training girls, I was seized with a strong desire to try another plan.

So I went up to Lexington, ten miles from Boston, and purchased the largest buildings in the neighborhood of the city. After a year's preparation, a school was opened. The character of the announcement, with what the public knew of my interest in physical education, drew together a company of bright girls, with delicate constitutions, such girls as could not bear the exclusively mental pressure of the ordinary school. That school continued there three years, when the buildings were burned.

During the third year we numbered about one hundred and fifty young ladies, being just five times the number of the first year. But this is merely an introduction.

I have mentioned, I believe, that these girls were, for the most part, of a nervous, delicate sort. The school naturally drew together pupils of that kind. Now unless you know something of the character of that school, you will suppose it was a school of gymnastics, amusements, etc., etc. You haven't guessed right. You'll have to try again.

It is my unwavering conviction that the school at Lexington was, intellectually, the hardest worked school in New England. The brain pressure was immense; but the girls, although beginning with low average vitality, steadily and rapidly gained in health

and flesh. Many who came in very delicate health, with little confidence in the experiment, having failed in previous attempts at school studies, were able, before the year closed, to walk, of a Saturday, ten or twelve miles without fatigue, and in addition, to dance an hour in the evening. Indeed if the whole truth about the physical changes in that school were told, it would hardly be believed; because we never think of ladies' boarding-schools without conjuring up a pale, corseted, sick procession, headed by a solemn maiden of fifty summers, marching slowly and wearily, with propriety and in silence, around three squares daily, for exercise.

Girls should improve, during their school life, in body, as much as in mind and manners. A girl goes to school with an uncultivated mind, round shoulders and spindle arms. If she return to her home at the end of four years with a cultured mind, but with a crooked and weaker body, the school has humbugged her and her friends.

My school at Lexington gave its pupils remarkable health, strength, flexibility and grace, and because of this physical improvement, was able to give them more than other schools of thorough mental training.

I really did not intend to say a tenth part so much about the school, but it has grown upon me, as, indeed, it always does.

But my object was to state the physical improvement, and then the sources of it. The common notion that it was to be attributed wholly to the new system of gymnastic training, is, in part, an error.

Health Rules in the Lexington School.

The girls went to bed at half-past eight o'clock every evening.

They rose early in the morning and went out to walk, which walk was repeated during the day.

They ate only twice a day, and of very plain, nourishing food.

They took off their corsets.

They exercised twice a day, half an hour, in gymnastics, and danced an hour about three times a week.

This was the general course, and upon this regimen they rapidly improved.

The gymnastic exercises proved invaluable, but the nine hours in bed, I believe, played a still more important part.

Important to Pale Yankee Girls.

An American girl comes to me with a cough, a dyspepsia, a weak spine, general debility, or any other affection. One of the first questions I ask, is this :

"What time do you retire?"

The answer generally is, "About eleven o'clock."

Invariably I say, "Now to begin with, I wish to know whether you can go to bed at nine o'clock? If not I shall decline to prescribe for you, for no matter what the malady may be, I am satisfied you will not recover. The trouble may be shifted into some other form, but you will not regain your lost health and strength without a long nightly sleep at the right time, in a sweet, refreshing atmosphere."

The changes in the health of the girls at Lexington, was a surprise to me, even, although I had expected much; and I am sure that retiring at eight and a half o'clock had more to do with it than any other influence.

A pale, thin Yankee girl will gain ten pounds in a year with this change alone, and she will, besides, look much younger, and enjoy a buoyancy and spirit, the absence of which in young persons is painful.

"Will it not do to sleep in the morning to make up the needed number of hours?"

No, it will not; and I could give you the best physiological reasons why the sleep of the morning cannot substitute for that of the first hours of the night; but really is it necessary to argue that which the experience of the ages has settled?

Sleep is discussed in another part of this work.

Noises in the Bowels.

These are heard mostly in ladies of sedentary habits. And I know of nothing more annoying. Sitting, it may be, in the company of gentlemen, in the midst of a brilliant conversation over *la Somnambula*, all at once while the young lady indulges in raptures over some exquisite aria, a new strain is heard. All are instantly aware of its origin. Klug, klug, rumble, rumble, klug, klug. The young lady feels as though she should sink through the floor, but she is familiar with the queer music, and tries to drown it by more rapid speech and forced laughter.

A cultured and most sensitive lady, whose rich imagination is familiar to the reading public, came to consult me about her "intestinal concerts." Within two months she came again to report a perfect cure. I gave her no medicine, indeed, I did nothing for her. I simply told her one little secret. It is this. You have twenty feet of small intestine which is, say one inch in diameter. The contents of this tube are constantly moving onward. So long as the tube is the full size, the contents will move on, generally, without any noise; but if you squeeze a part of the tube and make it smaller than the remainder, when the liquid contents pass along, in crowding through this reduced

part, sounds will be produced. Now that corset with the long bodice, does that very thing. The pressure reduces the size of a part of the small intestine, and the contents in crowding through that contracted part, get up the glug glug concert.

"I see it," said she, "I see it, and my dressmaker shall begin to-day."

Afterward she came in, as I have stated, to report the verification of my diagnosis.

But said she : — "Why don't you doctors write and talk about these things. How are we to find out about them unless those who make our bodies a special study, tell us. For my part, I can't see why I shouldn't have gone on till I had developed a grand abdominal oratorio, if some one had not explained the trouble."

"Well, here it is, and I hope it may inform and warn many. If I had given my patient a few sugar-coated bread pills, with the direction that she must allow no pressure upon the bowels, and had spoken a little mysteriously of the wonderful ingredients of the pills, that they numbered nineteen, and that a part of them had been obtained from a tribe of Indians residing in a ravine on the southwestern declivity of the Himalayan mountains, while a portion of the ingredients had been procured from a French physician *part*

Indian, who was found among the Digger Indians on the western declivity of the Rocky Mountains, I should have had a hundred applications for the wonderful medicine, but now that the treatment has only common-sense to recommend it, I am afraid very few will heed it.

Of course it will be understood that I have spoken of the pressure of the whalebones as a cause of these intestinal noises, though this pressure is by no means the only cause. There are certain articles of food, as every one knows, which fill the bowels with gases. Excessive eating will likewise produce a turmoil. But these causes are much more likely to produce sounds in a fashionably dressed lady than in a man, or in a woman who dresses in a simple and natural way.

While water will pass through a pipe of a given size without sound, reduce the size at one point, and at that place, the water, in crowding through, will produce a gurgling. I have known persons to suffer from intestinal sounds on account of a false position in sitting, incident, perhaps, to some occupation.

Pressure which checks the motions of the abdominal organs is likely to produce constipation. It is rare, very rare, indeed, to find a lady with a fashionable waist who is not troubled with constipation.

Constipation.

This affection, which is the result mostly of some fault in digestion, becomes in turn the source of many and grievous ills.

The treatment for constipation consists in curing the stomach malady which produces it.

But it is desirable to relieve the constipation at once. This may be done by drinking cold water on rising in the morning and on going to bed at night, as much as the stomach will bear; by the use of cracked wheat, oatmeal porridge, and fruits. Stewed prunes often afford almost immediate relief.

One of the most common and lamentable effects of constipation is piles. Injections of water always relieve piles. Generally if when a movement of the bowels is desired, a pint of water is injected into the bowel, it will produce the desired evacuation without any suffering from the piles. No person need have bleeding piles, or any considerable suffering from this malady, who will use the water injections. Of course the *cure* of the disease is to be found in correcting the condition of the stomach, in kneading the bowels and in exercise.

Biliousness.

A clergyman comes in to see me a dozen times a year about his biliousness. Biliousness is a common malady. I know a great many people who are bilious. They have no dyspepsia, they never had a symptom of dyspepsia in their lives; they are only *bilious*.

Now this word biliousness is a sort of respectable cover for piggishness. People are not bilious who eat what they should.

Reader, are you bilious? (Rather a hard question after the above hard word.) Let me prescribe for you. If you follow my prescription, and don't get well, write me, and in the next edition of this work I will announce my error.

First, on getting up and going to bed drink plenty of cold water.

Eat for breakfast, until the bilious attack passes, a little stale bread, say one slice, and a piece as large as half your hand, of boiled lean beef or mutton. If the weather is warm take instead a little cracked wheat or oatmeal porridge.

For dinner take about the same thing. Go without your supper.

Exercise freely in the open air producing perspira-

tion, once or twice a day. In a few days your biliousness is all gone. This result will come, even though the biliousness is one of the spring sort, and one with which you have, from year to year, been much afflicted.

Herb drinks, bitter drinks, lager beer, ale, whiskey and a dozen other spring medicines, are simply barbarous,

I had a friend, a lawyer, living at Buffalo, N. Y., who was famous for bilious attacks. Once or twice a month he had an attack of bilious headache, and sometimes was obliged to ask the postponement of an important suit. At length, tired and disgusted, he came to me and asked if nothing could be done, for really, it was getting to be the torment of his life. I told him how to eat and drink and exercise, and promised him if he would follow my prescription, he would never have another bilious sick headache. My prophecy proved true as to two or three years, but after a time he got back into the ale, strong coffee, sausage, buck-wheat cakes, hot rolls, melted butter, and other barbarous stuffs, and suffered again. But he knew the remedy, and when it became too hard to bear, he fell back upon the prescription, and has never failed to obtain relief.

A great many persons seem to be quite willing to

suffer a constant depression of spirits, constant indigestion, with its innumerable torments, entirely willing to suffer all this for the momentary pleasure of slipping down their throats something which tastes good. I can think of nothing else which so strikingly exhibits man's undeveloped condition.

Is it not funny to see a dyspeptic whose life is one unbroken torture, who wishes himself dead, who never has a good night's sleep and never a single happy, social hour, whose whole life is a failure, both as to enjoyment and usefulness, but who, three times a day, shovels into his stomach a quantity of greasy, hot, indigestible trash, to keep up the flame, producing and reproducing the suffering. Assure him that this is the cause of all his suffering, and he replies, in the spirit of a martyr :—

"Oh, I suppose, doctor, it is so, but then, after all, I go for 'a short life and a merry one.' Short life and a merry one, indeed! That's a grim joke. Merry! Why, a temperate man, who eats just what he needs, and enjoys the harmonious play of all the powers and faculties of body and soul, has more happiness in one day than one of these "short and merry life" fellows has in a year. The temperate man's life is one constant flow of solid enjoyment. He is conscious of usefulness, of filling a place in the world, while this short

and merry life gormandizer and drinker is affected with the thought that his life is blasted, that he should never have been born.

What the dyspeptic means by "a short life and a merry one," is the momentary tickling of his palate with plum pudding, followed by six hours of belching and groaning.

Cornaro's Testimony.

This distinguished nobleman, at about the fortieth year of his age, when he seemed utterly ruined by his gross excesses, saw death staring him in the face, and resolved upon a temperance which should be as complete as had been his indulgences. In his eighty-third year he wrote a work known as "*Sure and Certain Method of attaining a Long and Healthful Life.*"

This work was followed by three others on the same general subject, composed at the ages of eighty-six, ninety-one, and ninety-five, respectively. His works were translated into Latin, French, German, English, and other languages. The English translation reached its thirty-ninth edition in 1845.

Cornaro used to say, that "He who would eat a great deal, must eat but a little, and that what we leave after making our meal, does us more good than what we have eaten."

Cornaro exclaims, "Oh! blessed temperance, how worthy art thou of our highest esteem, and how infinitely art thou preferable to the irregular and disorderly life. Nay, would men but consider the effects and consequences of both, they would immediately see that there is as wide a difference between them, as there is between light and darkness, Heaven and Hell.

Again, Cornaro says: "Many have said to me, 'How can you, when at a table covered with a dozen delicious dishes, content yourself with one dish, and that the plainest on the table? It must surely be a great mortification to you, to see so many charming things before you, and yet scarcely taste them.' This question has frequently been put to me, and with an air of surprise. I confess it has often made me unhappy, for it proves that the persons have got to such a pass, as to look on the gratification of their appetites as the highest happiness, not considering that the *mind* is properly the *man*, and that it is in the reflections of a busy mind, that a man is to look for his true and highest happiness."

He goes on: "When I sit down with my eleven grandchildren to a table covered with various dainties, which, for the sake of a light, easy stomach, I may not at times choose to partake, yet this is no mortification to me. On the contrary, I often find myself most

happy at these times. How can it otherwise than give me great delight, when I think of the goodness of God, Who blesses the earth with such immense stores of good things, for the use of mankind. And must it not make me very happy, to think, that I have got such a mastery over myself, as never to abuse any of those good things, and am perfectly contented with such a portion of them, as keeps me always in good health? Oh! what a triumph of joy, is this to my heart; what a sad thing it is that young people will not take instruction nor get benefit, from those who are older, and wiser than themselves! I may use in this matter, the words of the wise man: 'I have seen all things that are done under the sun.' I know the pleasures of eating, and I know the joys of a virtuous mind, and can say, from long experience, that the one excelleth the other, as far as light excelleth darkness. The one are the pleasures of a mere animal, the other those of an angel."

Again this great and good nobleman, as he neared death, in his extreme old age, cried out, "Oh! sacred and most beautiful temperance, how greatly am I indebted to thee for rescuing me from such fatal delusions, and for bringing me to the enjoyment of so many felicities, and which, over and above all these favors, conferred on your old man, has so strength-

ened his stomach, that he has now a better relish for his dry bread, than he had formerly for the most exquisite dainties. My spirits are not injured by what I eat; they are only revived and supported by it. I can immediately on rising from the table, set myself to write or study, and never find that this application, though so hurtful to high feeders, does me any harm. And besides, I never find myself drowsy after dinner, as a great many do. The reason is, I eat so temperately as never to load my stomach or oppress my nerves, so that I am always as light, cheerful and active after meals as before."

"It is true indeed," says he in a letter to the Right Reverend Barbara, Patriarch of Aquileia, "that what I have to tell you is no news, but I never told it you at the age of ninety-one. Is it not a charming thing that I am able to tell you that my health and strength are in so excellent a state, that instead of diminishing, with my age, they seem to increase as I grow old. All my acquaintances are surprised at it, and I who know the cause of this singular happiness, do everywhere declare it.

"I must confess it was not without great work that I abandoned my luxurious way of life. I began with praying to God, that He would grant me the gift of temperance, knowing that He always hears our prayers with delight."

When Cornaro was ninety-five years old, he writes : "I find myself as healthy and brisk as if I were but twenty-five. Most of your old men have scarce arrived at sixty, before they find themselves loaded with infirmities. They are melancholy, unhealthful, always full of dreadful apprehensions of dying. They tremble, day and night, for fear of being within one foot of the grave, and are so strongly possessed with the dread of it, that it is a hard matter to divert them from the doleful thought."

I take great pleasure in quoting the testimony of Cornaro. An honored member of a noble family, himself distinguished for the rarest virtues, he fell into the prevailing vices of his time*—gluttony and drunkenness. At the age of forty he had become immensely gross, and entirely abandoned, and broken down.

A council of medical men, after long deliberation, ventured to assure him that nothing but an entire change in his habits could save his life; that although he had already arrived at middle life, he might recover, if he would observe the strictest temperance. Convinced at last, Cornaro said, "I will follow your instructions." They directed twelve ounces of solid food, and fourteen ounces of liquids per day. He lived till about one hundred in the enjoyment of singular health and youthful spirit.

**Weakness of the Stomach a protection
against other Maladies.**

Dyspeptics rarely have fevers or other acute affections. Most acute diseases take their rise from abuses of the stomach, and as the dyspeptic cannot indulge in great table excesses, or at most cannot *repeat* such excesses, he is not likely to suffer from that inflamed condition of the solids and fluids which takes its rise in gluttony, and which constitutes the main-spring of acute diseases.

If the stomach were to go on digesting all the food that a gluttonous appetite might demand, the whole system would soon be crowded with blood, and either a blood-vessel must give way or apoplexy must ensue.

But a weak stomach stands guard against this danger. If too much food be taken, the stomach refuses to digest, pain supervenes, and the appetite gives way.

So that dyspepsia is a safety valve, and may be spoken of as one of the sources of longevity.

Of course it is of itself a weakness, but thousands die prematurely of acute diseases, who would, if dyspeptic, be unable to force the system into that feverish and inflamed condition which gives rise to most acute
* diseases.

Chinese Doctors.

We are told that Chinese doctors receive so much a year if no sickness occurs in the family ; but have to pay back a certain sum per day while any member of the family is sick. This statement has been made on good authority. It is a capital arrangement. Suppose Dr. A had charge of a family on such terms. He is to receive, say, two hundred dollars at the end of the year, but is to pay two dollars per day, whenever any member of the family is sick. He has a hundred such families. If no sickness occurs his income is \$20,000. It is agreed if either party is dissatisfied, the contract may be broken by giving a week's notice.

Practical Workings.

Now let us see how it will work. It is the first of January, and the doctor begins his rounds. He calls at Mr. B's house. He goes at once into the bedrooms. He observes the beds, the condition of the walls, the facilities for ventilation. He asks questions, and gives all needed directions. The table is looked after, the dress, the hours of retiring and rising, the baths, etc., etc. ; in brief, he learns just how they all live, and gives every caution and instruction. He

constantly publishes little tracts for his patrons, discussing all that concerns health, and learns, by frequent or occasional visits, just how his \$200 are getting on.

New Yearly Classification.

By the end of the first year Mr. B would probably ask to be placed in another class which pays but \$150, or \$100. Or, possibly, Dr. A would find it necessary to insist that he should go into the \$300 class. The effect, however, would almost invariably be, to reduce the price, year by year, until Mr. B would give notice, on the first of January, that for the future he would insure the health of his family, himself.

Ruinous to Doctors.

I should like to try this with a hundred families. But then, one great disadvantage would come of it. I should gradually lose my income. Inevitably the families would drop off and insure themselves. If all the doctors had the same arrangement with their patrons, soon there would be but little medical business to do.

The Natural Order.

But this would certainly be beginning at the right end of things. What a stupid and senseless manage-

ment it is for the doctor to sit in his office, and play with his thumbs, till Mrs. Smith has gone on with her bad food, bad hours, bad dress, bad ventilation, bad everything, and falls sick. Mr. Smith then comes over to say :—

“Doctor, I wish you would drop in and see my wife this morning, she seems all out of sorts.”

The doctor drops in and finds that Mrs. Smith has a typhoid fever. He knows perfectly well what produced it, but it is too late to talk of that now, and he goes to work with his doses. Soon the table is covered with vials, cups and spoons. At the end of a month Mrs. Smith is convalescent, and when, at length, she is able to sit at the window, she points with pride and gratitude to the doctor as he goes trotting by, and says, “There goes the man who saved my life.” Is there any other thing in life about which we display such wretched stupidity?

The Science of Life.

The science of living is something to be learned. That man who refuses to learn, and insists upon going it blind, is an idiot. I know another man who belongs to his class. It is the staggering drunkard, who bawls out in the street,

“Away with your cold water; I go for a short life and a merry one.”

If a man ever does seem bereft of reason, it is when he surfeits upon a variety of rich foods, and grunts out a disapproval of "your moonshine stuff," meaning, thereby, a thoughtful temperance.

Earnestness of Reformers.

I will not deny that dietetic reformers have sometimes been unreasonable, they have often pushed things to an extreme; but people who can think for themselves will hardly abandon a precious truth on that account. We have had some lessons which we really should not forget. Only the other day a few abolitionists stood alone. All the rest spit upon them. The abolitionists uttered the most sacred truths. They alone clung to the ark of human freedom. To-day abolitionism is only a grand word and a glorious memory; but behold! the weak, cowardly multitude hear the command from the leaders of fashion, and shriek themselves hoarse in glorification of abolitionism.

I witnessed a scene the other night which will never fade from my memory. It was the occasion of the introduction of the new Mississippi senator to Boston. Only yesterday Jeff Davis left the U. S. Senate to establish a Slave Empire upon the ruins of the Republic. To-day Mississippi repudiates Jeff Davis and sends to the U. S. Senate, in his place, a negro.

The ceremony was celebrated at Tremont Temple. I have striven for thirty years to contribute my mite to the emancipation of the negro. I went to see the triumph. But I confess my curiosity was very strong to see how the fools and sneaks would disport themselves. Phillips, I mean Phillips the great and good, was there. It was his hour of triumph. I watched his face, but saw nothing of pride or victory there. The negro senator came in, leaning upon the arm of our good Governor. Ah, how they cheered, the giddy-headed throng made the old Temple ring. Near me was a well-known military man who screamed till he was red in the face. He it was, who led one of the mobs that tried to choke Phillips for advocating the cause of the negro.

I watched the leading abolitionists, but not one of them applauded. Most of them looked sad, and I knew they were thinking *how long, oh! how long this justice has been delayed.*

These abolitionists have already turned to the cause of the Chinese. Years hence, when there comes to Boston a Chinese U. S. Senator, thousands, who, meantime, insult and cruelly wrong him, will assemble in the old Temple and cheer to the echo, while the brave souls whose noble words and deeds shall secure the triumph will sit aside, and in silence listen to the howlings of the brainless ones.

The same sad, sorry story of weakness and cowardice may be repeated over the struggle with king rum.

Can't we learn anything? Must we always wait to have the word passed before we can applaud a good and true thing? When shall we begin to think for ourselves?

The Health Movement.

Another great movement is initiated. Man's health is the watchword. Many of the greatest and noblest men in history have prophesied this revolution, and rejoiced over the strength and happiness it would confer upon man. Just for once let us think for ourselves, and act for ourselves. Because some two-legged swine goes for a short life and a merry one, because some biped pig quotes scripture to authorize the refilling of the trough, don't echo the grunt, but think for yourself. Don't join the crowd this time, but, if need be, shift the switch, and run on a track by yourself.

Importance of Study in Health Matters.

Nothing in this world, outside of our direct spiritual relations with our Father, pays like the study of health.

If you hear a man sneer at carbonates, nitrates and

phosphates, at questions of quantity, quality, times of eating, manner of eating, or at the smallest details which bear upon our health, if you hear a man sneer at such things, set him down as a fool, and shun him, except as a subject of missionary interest.

'We can add ten years to our life, and multiply its enjoyments indefinitely by a thoughtful, earnest attention to these very questions.

A Short Life and a Merry One.

During my residence in Buffalo, N. Y., many years ago, I became acquainted with two young lawyers, who were thought to be most promising. I have never met their superiors. With fine physique, college training, polished manners, the best professional culture, and surrounded by wealthy, admiring friends, nothing seemed too high for them. But they both believed in a short life and a merry one. One of them tumbled down one night upon the track of the N. Y. C. R. R., and had both legs cut off. The other one leaped from a fifth-story window in Dixon, Illinois. They showed me the spot where they found him next morning.

Speaking of Buffalo reminds me of another short life and merry gentleman. I attended his mother during a long illness of organic disease of the heart.

He was the nurse, and a most devoted one. During our long and intimate association we talked much of the disease of his mother, and he became interested in anatomy and physiology. After his mother's death he came into my office, remained two years, and then went abroad. I quite lost sight of him; but three years afterwards, while walking through one of the hospitals in Paris, who should seize me by the arm, but my old friend and pupil, Charlie. To me it was a delightful surprise; and as my knowledge of the language made the clinical remarks of Velpeau rather uninteresting, I said:—

“Come Charlie, let us take a walk.”

We went into the Luxembourg Garden, which was very near, and after a few words about our mutual welfare, he said:—

“Doctor, I tell you I am having a big time. This is a high old town.”

“Come now, Charlie, tell me all about it.”

“Look here ole feller, mum's the word, you know. If the old man should hear how I am goin' it, he wouldn't send me another red.”

“But, Charlie, I hope you haven't forgotten those conversations with your mother.”

“Well, it is too bad, that's a fact; but then, you know, I go for a short life and a merry one. The

fact is, ole feller, I have got just the nicest little wife you ever saw."

"Wife, Charlie, why, are you married?"

"Oh, not married exactly; but then you know how we fix things here."

With this infamous social life, there came, naturally, drink and other vices. Charlie was enthusiastic over "a short life and a merry one." Abandoned by his father and friends, he was wandering about the streets of New York, a few years ago, and I met him on Grand Street. He told me that the reason for his being so very seedy, was, that where he had been tending bar they had falsely accused him of robbing the till, and had turned him out without his trunk.

I used to know a young lady who believed in a short life and a merry one. She went to the theatre and dancing parties constantly, wore the most unhealthy dress, and, in brief, transgressed every law of life. When twenty-two, she was old, pale, faded, and marked off the list of attractions. There are to-day, in America, a million such victims of a short life and a merry one.

A Long Life and a Merry One.

Whatever makes life short can't make it merry. The two words don't belong together. Idiots think

that drinking whiskey and howling all night is a merry life. Silly girls think that sitting in the stifling atmosphere of a theatre, night after night, is merry. Gluttons think that grinding the largest possible grists through their digestive mills is a merry thing.

These poor creatures haven't touched the hem of the garment of true happiness.

Whatever makes life merry, makes it long. A long life and a merry one. These words belong together.

I introduced you to a pale, nervous, dyspeptic, fagged-out young lady who believed in a short life and a merry one. Now let me introduce you to another young woman who believes in a long life and a merry one. Here we have a very different person. What a blooming, bright face. If you could see that face at ten o'clock, P.M., you wouldn't find it in a theatre, but if allowed to peep, you would find it wreathed in the smiles of a happy dream. But again we find our long life and merry girl at an early hour in the morning singing among the roses in the garden, or radiant amid duties well done. Dress, food, exercise, every law of life treated as a law of God. Here we see health and happiness. As in her, so in all obedient ones.

Allow me to give you a toast :

A MERRY LIFE AND A LONG ONE.

Curious Treatment of Dyspepsia.

Some years ago a physician in New York city published a small book, in which he gave well-written certificates of marvelous cures of dyspepsia. Patients began to flock to him. Their introduction to his treatment was very queer. He took the patient into his consultation office, examined his case, and if it was one he could cure, he announced his fee as five hundred dollars, to be paid in advance. If the patient's confidence was strong enough, the money was paid, and then, the doctor took him through a hall, up a flight of stairs, through another hall, then through a room, down a flight of stairs, up a flight, down a flight, then to the right, then to the left, and at last they arrived in a small room, without windows, artificially lighted, and in that room the patient was required to put his name to a solemn vow, that he would never reveal the modes of treatment.

This being all finished, the patient was introduced to the treatment. This consisted in slapping the stomach and bowels. Besides this, the patient was required to live temperately and much in the open air. On rising in the morning he was required to spend from five to ten minutes in striking his own abdomen with the flats of his hands. Then he went out for a

morning walk, after having drank a tumbler or two of cold water. At eleven o'clock in the forenoon he spent a quarter of an hour or more in slapping the bowels with his hands. Then he laid down to rest. He dined temperately at two o'clock, and spent the afternoon in sauntering about. At seven o'clock in the evening he repeated the percussion and went to bed at nine o'clock. A majority of the cases of dyspepsia that sought relief at this establishment, had used all the other means besides the slapping; that is to say, they had lived on plain food and much in the open air. It was the slapping, the pounding with the fists, kneading with the fists, sometimes with the fists of an attendant, that cured these people, for cured they certainly were. Marvelous cures were effected in this establishment. After the death of the doctor, some of his patients felt themselves absolved from the obligation, and one of them described the treatment to me.

In every case of Indigestion, no matter what may be its character, slapping the stomach or bowels with the flats of the hands, on rising in the morning, four hours after breakfast, and in the evening on going to bed, is excellent treatment. I cannot conceive of a case of chronic indigestion which such manipulation would not relieve.

If the patient be so delicate, so weak, that he can-

not perform these slappings or kneadings upon his own person, the hand of a discreet assistant should be employed.

It is marvelous how the body, the stomach for example, which, when these manipulations are first practised, may be so very tender that the slightest touch can hardly be borne, it is marvelous how in two or three weeks, a blow, almost as hard as the hand can give, is borne without suffering.

Nearly all soreness is relieved by judicious handling. For example, you stick a needle into your finger. Let it alone, and it will ache for an hour and be sore for a day. But lay the finger down upon your knee, and beat it with your other hand, the pain and soreness will disappear as if by magic.

You have a pain in the side or across the chest; percussion will relieve it almost immediately. But constipation, dyspepsia, torpidity of liver, and other affections of the abdominal viscera are relieved more quickly and completely than any other class of affections, by percussion, kneading, etc. Such treatment comes under the head of counter-irritation. A new circulation is established in the parts near the point of suffering and congestion. Besides this, especially in abdominal troubles, the manipulations appeal directly to the contractility of the weak and relaxed vessels in the affected part.

Exercise before Breakfast.

Last autumn a robust gentleman of fifty years and two hundred pounds, brought his frail, dyspeptic wife for some advice.

In the course of a long conversation, I asked her whether she could exercise before breakfast.

"No, and if I go out for a walk, which my husband constantly urges, it destroys my appetite, makes me faint, produces headache, and spoils me for all day."

I saw the husband was incredulous, and asked him if *he* could exercise before breakfast.

"I can walk five miles before breakfast, and when I come in, I am as hungry as a wolf."

And then he added in a tone intended to be kind and respectful, "I believe my wife could do the same thing, if she only could make up her mind to it."

"But, my friend, don't you know there is a wide difference in the capacity of people to do this and that, a difference growing out of age, of health, strength, etc.? Don't you know that what agrees with the stomach, the nerves, the muscles of one, disagrees with the stomach, the nerves and the muscles of another?"

It was plain enough, though he nodded his head approvingly, that he still thought if his wife only had his pluck, she could join him in these morning sweats.

Among what is known as the better classes in America, not more than one woman in ten can take an early morning walk, before breakfast, with profit. And although I find that in my own case the early morning is the best time for work, both intellectual and physical, I have been compelled to admit after the observations of many years, that there are many persons, and probably a large majority of women, who cannot avail themselves of what to me and many others is a luxury.

During my student life, in Paris, I learned to respect the wisdom of the French, in the management of the first meal. When they rise, they take a few mouthfuls of bread and coffee, upon which they go about their work, postponing the real, substantial breakfast until ten o'clock, or even later. I fell into this custom, and found that for the early hospital rounds, it was capital; and I have ever since thought it would be an excellent system for our delicate American ladies. It would enable them to go out to ride, or walk, early in the morning, and thus give them a chance at the fresh air, at an hour when fashion does not demand an elaborate dress.

So very susceptible is the system, early in the morning, before breakfast, that wise military commanders, stationed in bad climates, give their men breakfast

before exposing them to the dew or other mischievous influence. Sir George Ballingall, in speaking of the regiment, quartered at Newcastle, when the typhus fever was raging, says, nothing contributed so much to arrest its ravages, as giving the men an early breakfast, of warm coffee.

The same early breakfast, before going out, has been adopted, in new countries, particularly in malarious districts.

As during the night the stomach and upper intestines become empty and weak from the function of digestion having been long completed, and as the system has been drained by the rapid, insensible perspiration during the night, which Sanctorius says is twice as rapid as during the day, the system is unsupported.

I have long slept with open windows, at all seasons, and in all climates. Away from home, I often find it difficult to procure the necessary extra blankets. When my covering has been insufficient, I find no difficulty until about daylight, when I am awakened by chilliness. While at sea I have observed that if, uncomfortable on account of the heat during the first hour after retiring, I have thrown off the bedclothes, about daylight I have been sure to awaken with a sense of chilliness.

When cholera is in the atmosphere, it most frequently makes its attacks about three or four o'clock in the morning. During those two seasons of the cholera, 1849 and 1851, I noticed that nearly all the genuine, quickly-fatal cases began early in the morning. At that hour the system is least defended against the enemy.

I have never permitted myself to visit a patient, with any form of malignant or infectious disease, early in the morning, without first arming myself with a warm breakfast.

Thousands of our New England women spoil their appetite for breakfast, and unfit themselves for the whole day, by working an hour over the hot stove, before eating anything. If they would adopt the French custom of taking a few mouthfuls of bread, and some warm drink, on getting out of bed, it would prove a grateful support. Instead of spoiling the appetite for breakfast, it would increase it, and give them a good start for the day. I have known a delicate woman to drink a cup of weak tea and eat a small slice of bread and butter on rising, with great advantage.

A clerical friend assures me that early morning study without food nearly ruined his stomach.

How Fat People may get Themselves into Ship Shape.

Even in New England there are a great many uncomfortably fat people. I say even in New England, because it is supposed that Yankees are a gaunt, ghostly folk. But in an audience of five hundred, almost anywhere in New England, you may see a dozen uncomfortably fat people, — waddling, wheezy, anti-going-up-stairs sort of people. Down in Pennsylvania, in an audience of the same size, especially if you are in a country district, the proportion of fat ones is very large. Let me give you a case, — a funny case. An immensely fat, panting, red-faced woman came to me, with a fat word in her mouth, "obesity," and standing before me exclaimed :—

"Doctor, just look at me! Aint I a sight to behold? This is the torment of my life. I shouldn't weigh more than one hundred and thirty, but I do weigh two hundred and twenty. Now just think of my carrying that extra ninety pounds whenever I move. What can be done for me? All summer long I pant and perspire, and wish myself in Greenland. When I walk in the street, my sister says I look like a Berkshire pig. When I go up stairs in a hurry, I just lose my breath altogether, and plump myself down

into a chair, and gasp it back again. Now, what can be done for me?"

"Has your husband a horse?" (I already knew he had several.)

"Oh, yes; why, you know he keeps a stable full."

"Do they ever get too fat?"

"Oh, yes; you know my husband keeps fast horses. I hear about nothing else the year round, but '2.40, 2.31 3-4,' and that 'they are too fat,' and that 'they are out of condition,' and all the rest of it; you know the phrases."

"When your husband's horses get too fat, can he reduce them?"

"Oh, yes, very easily."

"How does he do it?"

"Why he reduces their food and gives them more exercise."

"Madam, all I have to say is, 'Go thou and do likewise.'"

"What, starve? Why, I have tried that for months together. What I have eaten wouldn't keep a mosquito alive; and I have grown fatter and fatter all the time."

"Madam, you must excuse me, but what you are saying lacks accuracy. You eat and drink too much, or you would not be in this condition."

"Well, tell me how little I should eat."

"I cannot tell you that; but I can say that you should reduce the quantity which you are now eating, and you must learn to live with very little drink. This last will help you much.

"To be particular, let me say, go on with just such food as you like. If you are fond of meat, all the better; increase the proportion of that article a little. Masticate the food very thoroughly, so that you will not need much drink to swallow it. When you have a desire for drink, content yourself with a single mouthful. In a week or two you will be surprised to find how the wish, for water, has disappeared. If you can learn to get on with one tumblerful of water, or other drink, per day, this fat, shaky condition will at once begin to disappear.

"But to speak of your food again, reduce the quantity you now eat one quarter, and after, say, two months, reduce another quarter. This reduction will probably be sufficient, if you rigidly observe what I have said about drinks.

"If, in addition to this, you exercise yourself into a profuse perspiration once or twice a day, you will be astonished to find how soon your clothes will become loose. Why, madam, there is not a fat person under fifty years of age in the country, who might not get

himself or herself into comfortable proportions in less than half a year."

"Doctor, what do you think of Banting's system?"

"I think just this. If people have no control of their appetites, that system is a good thing, although sure to produce an abnormal condition of the tissues. We cannot use meat, above a certain percentage, in our food, without deranging the general health. A feverish, hard pulse, and a certain condition of the stomach and liver which will show itself in a darkening of the complexion,—these and other symptoms will show, when we eat more meat than we should, that the vital processes are not going on well; and, besides, this expedient, which Banting advises, of living on meat, is entirely unnecessary. It is infinitely better to keep up about the usual proportions of meat and vegetable food, and simply reduce the quantity."

"But, Doctor, if I go into this thing as you advise, it seems to me that I shall hardly be able to keep on my feet, I shall be so faint and weak."

"Madam, you are entirely mistaken. Any person, when too fat, will only experience a sense of lightness and increasing strength, when making a judicious reduction in the amount of food and drink. He will breathe better, move quicker, and feel that a great load is being removed.

"For example, a man weighs, say two hundred and fifty pounds, and should weigh, to be active and healthy, one hundred and seventy-five pounds. This man is carrying about an extra seventy five pounds, interfering with his respiration and activity ; in other words, cutting short the two great conditions of health, viz. : respiration and exercise. Yet that man goes on puffing and blowing until he dies, and dies prematurely, too, for excessive fat is inimical to longevity. .

"Another word or two about drinks. All fat people are large drinkers, and when we remember that about three-fourths of the human body are water, (if you put a human body into an oven, and make it perfectly dry, it will go down from one hundred and fifty to about forty pounds,) you see what an intimate relation with this fat condition the large use of drinks may have. And it is not difficult to learn to get on with but little water. Most people drink many times more than they really need. A man weighing two hundred and fifty, has sixty or seventy pounds more of water, in his system, than it needs. So he must drink but little water, and he will soon get on comfortably, not only without suffering, but with improving health.

"Madam, before you leave, I want to say one other thing ; you must not sleep too much. Long sleep fattens. Don't go to bed very early, but get up very

early in the morning. Seven hours in the twenty-four, or say *six* hours for awhile, will do for you. In other words, Madam, my prescription for you is, *keep your eyes open, and your mouth shut.*"

How Shall Thin People Become Plump?

But for one fat person, there are, especially in New England, a dozen lean ones. Here comes a young woman of twenty-five, who looks as though she were thirty-five, and the prematurely old look comes from this clinging of the skin to the bones. See how hollow her temples and cheeks are.

Casting her eyes about the office to see that nobody overhears, she says :—

"Doctor, what can be done for these dry bones? Why, I can hardly make a shadow; and while I ought to be plump at twenty (which she desires me to understand is her age), here I am looking like an old grandmother. Can anything be done for these crow's feet about my eyes, and these scrawny collar bones?"

"Well, this is curious; a woman in just the opposite condition has this moment left here. She is carrying ninety pounds too much flesh. That makes her miserable. Now you have not enough by twenty-five pounds, and that makes you miserable. I have prescribed for her, and if she follows the prescription, in

six months she will lose her extra pounds. If you have no disease, but simply a lack of fat, I am sure I shall be able to prescribe for you, so that the desired twenty-five pounds or more will come, in about the same length of time."

"I am perfectly well, and I am strong, too, only I am such a skeleton."

"Let me question you a little. What time do you go to bed?"

"Generally about eleven or half-past eleven."

"This must be changed. Instead of going to bed at eleven or half-past eleven, if you are really in earnest about getting a plump, youthful appearance, you must go to bed at half-past eight or nine o'clock. With a fresh, plump, youthful person, a single hour in any company will gratify you and your friends more than a dozen nights, with this fagged and old look. So go to bed at half-past eight or nine o'clock, and don't be in a hurry about getting up in the morning. On going to bed and on getting up in the morning, drink as much cold water as you can swallow. Soon you will learn to drink two tumblers; and some persons may learn to drink still more. Drink all that your stomach will bear. Spend a good deal of time in the open air, without hard exercise, but exposed to the sun and fresh air. If practicable, ride in a car-

riage some hours every day. Remain out enough to give you a good appetite, but don't work hard enough to produce excessive perspiration. Eat a great deal of oat meal porridge, cracked wheat, Graham mush, baked sweet apples, roasted and broiled beef, though the vegetable part is more fattening than the animal part. Lie down an hour in the middle of the day, just before you take your dinner, to rest, and, if possible, take a little nap. Cultivate jolly people. 'Laugh and grow fat' rests upon a sound physiological basis. A pleasant flow of the social spirit is a great promoter of digestion. There, now go home, keep your skin clean, sleep in a room where the sun shines, keep everything sweet, and clean, and fresh about your bed, sleep nine, if possible, ten hours in the twenty-four, eat as I have told you, cultivate the jolly spirit, and in six months you will be as plump as even your lover could wish."

My prescription for the fat lady was, *keep your eyes open and your mouth shut.*

My prescription for you is, *keep your eyes shut and your mouth open.*

Tobacco and the Stomach.

The use of tobacco injures the stomach. Its influence upon digestion and assimilation is shown in the emaciation of its devotees.

Three years ago, an old man, with whom the author had been intimately acquainted for several years, died at the age of seventy-two. Up to the age of sixty he had been a great sufferer from faintness in the pit of the stomach. It was the constant torment of his life. The sensation had been growing worse for several years, until his face habitually wore an air of despair. At the age of sixty he was so grievously tortured, that he concluded to follow the author's advice, and abandon tobacco, which he had chewed excessively.

Within a week his stomach was sensibly better, and in three months he was so much improved, that all his old friends on meeting him would exclaim :—

"General, how well you look ! Why, you look ten years younger than you did last summer."

He gained more than thirty pounds in a year, and his health became better than it had been for forty years.

These lantern-jawed Yankees who run tobacco mills, would soon become plump, if they would stop "chaw-in'" and "smokin'."

"Doctor, which is the worst, chewing or smoking?"

On the whole, chewing is the worst mode, principally for the reason that it can be indulged so constantly. The chewer begins on rising, and with the exception of the nine minutes and twenty-eight seconds devoted to breakfast, the fourteen minutes and fifty-nine and a half seconds given to dinner, and the eight minutes three and a quarter seconds spared for supper, the man runs his mill every moment till he gets into bed. Just as he turns the clothes down to get into bed with one hand, he takes out of his mouth with the other hand, the last quid.

During the day, by this close economy of time, he grinds through twenty-six grists, and projects juice six hundred and twelve times. This juice, if conscientiously gathered, would measure three pints.

Smoking can't be carried on with such devoted regularity, and although worse than chewing for a given time, is, practically, not so mischievous.

But when used in either mode, it injures the stomach. It can't be indulged, even moderately, without affecting, prejudicially, the function of digestion.

Excuses for Using Tobacco.

As illustrating the excuses for the use of tobacco, a pleasant story is told of Dr. Nott and his students.

It will be remembered by students of Union College that President Nott's edicts against tobacco were very severe. The use of it in any form was punished by expulsion.

One evening, the old doctor, as was his custom, walked through the halls of the dormitories late in the evening, to see that all was going well. While making this round one evening, he thought he smelled tobacco smoke. So resolving himself, as Gough would phrase it, into a smelling committee, he put his nose to this and that door, until he was sure he had the right one, and without knocking he opened the door and walked in. There he found four students puffing at long nines.

In his severest manner, and no man could be more severe, he said :—

"Young gentlemen, I will see you in my private study to-morrow morning at nine o'clock."

They knew very well what that meant, and as they were to be expelled the next day, they resolved to make a jolly night of it; so obtaining an extra supply of cigars, they smoked and sang all night. At nine o'clock the next morning they went together to Dr. Nott's study.

On walking into his presence they were told to take seats. Dr. Nott seated himself in his grand arm-chair, and turning to the first of the four, he said ;—

"Why do you smoke tobacco?"

The young men had no idea they would be permitted to defend themselves. The one addressed eagerly said :—

"Mr. President, the reason I smoke tobacco is that I have been very much troubled with water-brash, and a physician told me that smoking was the only thing that would relieve it. That is the reason I smoke."

"And how do you find it affects your water-brash?"

"Oh, it completely relieves it. I find it a perfect cure."

"Ah, indeed, that is a very interesting fact. I wonder if the profession knows that? Then you find that the smoking of tobacco relieves the water-brash?"

"Yes, Mr. President, I find it is a perfect relief."

"Well, really, this is a very important scientific fact. I must put it down in my memorandum."

So the Doctor deliberately, and with the gravest possible face, wrote it down, and then read what he had written, and said as if speaking to himself, "Indeed, this is very interesting and very important."

Turning to the second, he said, "And why do you smoke?"

"Well, Mr. President, the reason that I smoke is this. The fact is, my family have all been very much troubled with the water-brash, and I thought as smok-

ing was a sure cure for it, that if I smoked now and then, it would prevent it."

"Well, this is still more interesting than the case of your friend. And do you find that smoking tobacco prevents it in your case?"

"Yes, Mr. President, it has entirely prevented it. I am not troubled with it in the least."

"Well, I must put this down. Prevention is certainly more important than cure. Young gentlemen, you really surprise me. This is a very important development."

Turning to the third one, he said, "And why do you smoke?"

"Well, Mr. President, the fact is—the reason—the reason that I smoke—Mr. President—well, I smoke because I am troubled with the toothache, and I find that smoking entirely cures it."

"Indeed, do you really find that the smoking of tobacco relieves this pain in your tooth?"

"Yes, sir, it entirely relieves me. I find that the smoking of a single cigar perfectly cures me."

"Well, young gentlemen, you have really made very interesting discoveries. I am surprised that these facts were not generally known to the medical profession. It would seem that the remedy is not very bad to take, and certainly it ought to be widely known. You don't find it bad to take, do you?"

"Not very, Mr. President; we are willing to take it for the relief it affords."

Turning to the fourth young man, President Nott said, "And why do you smoke?"

"Mr. President, the reason I smoke — what makes me smoke—I will tell you why I smoke—the fact is, I am very much troubled with corns."

President Nott rose, reached out his hands to the four young men, and said, "Young gentlemen, will you give me your word of honor, that you will not smoke, or use tobacco in any other form during your stay in this institution?"

"Yes, yes, indeed," they all eagerly said, taking hold of his hands.

"Young gentlemen, good morning." And they went away well pleased with the result of the interview.

I know what has been said of the medicinal virtues of tobacco. Its friends claim for it the preservation of the teeth, the relief of throat ails, the cure of consumption, the certain relief of stomach and liver diseases, the cure of constipation, the sure cure of neuralgia and sciatica, and now we hear that no smoker has ever been known to commit suicide.

To all such advocates I commend the Governor's famous argument in favor of alcohol as a food.

How Tobacco Hurts Man.

[The following is from a lecture delivered in Boston by DR. DIO LEWIS, and reported by J. M. W. Yerrinton, for "The Congregationalist and Recorder."]

I believe that tobacco is playing an important part in the morbid development of our nervous systems. I want to discuss this question frankly. I have used tobacco, and for many years I used it excessively. I both chewed and smoked it. In college I smoked a short, black pipe, and used to show it to my fellow-students with pride, because of its rare color; and then I *chawed* between the smokes. During the last fifteen years, I have used, say sixty cigars; an average of four a year. I have sometimes avoided it altogether for several years. You see that I have had experience, and I am not going to say a severe word to any victim of the weed. Having used it myself, without evil purpose, I am only going to tell you, in a plain, friendly way, what science says of it.

Tobacco, in its ordinary state—the "plug" which you have in your pockets here to-night—is a powerful poison. It will do what few other poisons will do. I do not now speak of the oil of tobacco. I do not speak of nicotine, a single drop of which, put upon the tongue of a cat, will kill her in two minutes; three drops of which, put upon the tongue of a bull-

dog will kill him so quick, he will hardly get out of your arms in his struggles ; and ten drops of which will kill a cow inside of ten minutes. I am not talking of these things at all, although they are all in the tobacco ; but to-night, I am talking of tobacco in the form of the original "plug."

Now, gentlemen, let me suppose an experiment. I call from this audience a boy ten years old, one who has never used tobacco. "Charles, will you help us make an experiment here to-night?" "Yes, sir." "I will give you fifty dollars if you will go through it like a plucky man." "I will, sir." "The experiment is this : There is a piece of tobacco as large as a pea. Put that in your mouth ; chew it ; don't let one drop go down your throat ; spit every drop into that spittoon ; but keep on chewing ; don't stop ; just chew steadily." Before he has done with that piece of tobacco, as large as a pea, simply squeezing the juice out of it, without swallowing a drop, he lies here upon the platform in a cold, death-like perspiration ; he vomits the contents of his stomach ; put your fingers upon his wrist, there is no pulse ; and so he seems for two or three hours as though he were dying, or, perchance, dead.

Steep a small piece of tobacco in a quart of water, and bathe the neck or back of a calf that may be

troubled with vermin. You will kill the vermin, but if you are not careful you will kill the calf too. I have known many calves to be killed with tobacco. Some of these calves had less than four legs.

Now, gentlemen, go to your drug stores, begin with the upper shelves, and take down every bottle, and then open every drawer, and you cannot find a single poison, (except some very rare ones, which you never heard of,) which, taken into the mouth of that ten-year old boy, and not swallowed, will produce those effects. Tobacco, then, I repeat, in its ordinary state, is an extremely powerful poison.

That is my first point against tobacco.

Now I want to speak of the modes in which this poison has been used by man.

First, *chawing*. Some people call it *chewing*. That is not the word at all; *chaw* is the word. Everybody knows how it is done. If you don't know how it is done, ask some clean housekeeper, and she will tell you. She will be eloquent on the subject.

Second, *smoking*. Somebody has described smoking as a small roll of tobacco, with a little fire at one end and a big fool at the other.

Third, *snuffing*. If snuffing had no other claim, it is certainly the funniest way in which tobacco was ever used. I can't see a man take snuff without roar-

ing. Just look at him. He is a grave-looking man, —a Judge or a Senator. He is none of your jokers or buffoons. This man puts his thumb and fore-finger into his vest pocket and brings out a little box; puts it into his hand, — looks at it seriously, — knocks on the top of it solemnly, — lifts up the cover, — looks in, — puts in his finger and thumb and brings out a little dark-colored powder, and then begins to punch it at his nose. After a few punches, he brushes his fingers, perhaps his linen, closes his box, puts it in his pocket, and walks off with the air of a man who has done his duty, and satisfied one of the most serious claims of his existence.

Fourth, *snuff-rubbing*. I have been through the Southern States, but I never saw this snuff-rubbing. Some of our soldiers have told me they saw it everywhere. The scene is this: Here are a dozen young ladies who have assembled for a snuff-rub. It is said to be a common thing to hear one girl ask another, "Miss Mary, were you up at the Colonel's at the last rub?" I was about describing the scene. A dozen girls are waiting. A negro man enters, bearing in his hands a tray. Upon this tray there are a dozen or twenty snuff-brooms — little sticks of dog-wood, one end of which has been beaten into the condition of a splint broom. Each girl takes one of these and puts

the splint into her mouth, and keeps it there until it becomes moist. Now the negro man comes along again with his tray, on which he carries a box or bowl of snuff, and each girl dips the wet end of her stick into the snuff, twists it round to make it hold as much as possible, carries it to her mouth, and begins to rub her teeth, inside, outside, and all round. Then she (ladies excuse me) spits! Then she dips and rubs, and (excuse me) spits! She hears a story, she tells a story, but she never forgets to dip, and rub, and spit. When this thing has been going on for a couple of hours, they kiss each other good night, and congratulate each other upon the happy influence this practice exerts upon their teeth. For they tell you that the reason they do this is because it is so good for their teeth.

Fifth, *snuff-chawing*. In my visits at the South, I never saw a woman chew snuff, but Dr. Cole, Dr. Fowler, Dr. Waterhouse, and other writers on tobacco, affirm that some women in Alabama, Georgia, and other Southern States, chew snuff, just as men chew cut tobacco, and I have no reason to doubt it.

Sixth, *plugging*. A well-known American traveler tells us that the peasantry in Norway and Sweden use tobacco by plugging the nose. For this purpose they use small rolls about the size of one's little finger.

They cut off a small piece, say half an inch in length, and twist it up the nostril, and let it remain there until the narcotic principle has been absorbed. The same tourist says, it is the cleanest way in which tobacco was ever used. Although it spoils the voice, still a man can talk so as to be understood, and it does not cause any spitting. The traveler advises everybody who must use tobacco, to try *plugging*.

Seventh, *smoke-swallowing*. The same gentleman informs us that the Russian peasantry use tobacco by smoking and swallowing the smoke. A single pipe of tobacco furnishes a company of twenty men with as much stimulus as twenty pipes would, used in the ordinary way. The first man fills his mouth with smoke to its utmost capacity, and then proceeds to swallow that smoke, passing the pipe to the next man, and so on, each in his turn filling his mouth with smoke and swallowing it.

Now I want to consider the influence, on our health, of some of these modes.

First, *chawing*. Look into a man's mouth who *chaws* tobacco, and see how red it is. The doctor no longer appeals to it to determine the condition of the man's stomach. He can learn nothing by examining his patient's tongue, if he be a chewer of tobacco. That congestion which produces the redness, extends

a little further down than you can see, and affects the speech. Dr. Cole and Dr. Waterhouse affirm that they can always tell whether a public speaker be a chewer of tobacco or not, so peculiar is its influence upon the articulation. But let that pass.

Next, *smoking*. Smoking injures the teeth; it produces decay in the teeth. I produced decay in two of my upper teeth and one under tooth by holding my pipe or cigar between them, before I had any other decayed tooth in my mouth. It is not remarkable that, with the heat of the tobacco smoke, and its acrid poison, the teeth should suffer. But that is nothing compared with its influence upon the lungs.

Put your hand over your eye, fill your mouth with smoke, and then blow the smoke up under your hand. Now look in the glass. How red the eye is. The tears run down the cheek. What is the matter? There has been a powerful poison in the eye.

And yet, men whose fathers and grandfathers have died of consumption, do not scruple to sit down in a room where there are a dozen smokers, and smoke until it is all blue, taking in lung-full after lung-full of that deadly poison.

I believe with Dr. Waterhouse, that if young men would abandon cigars, consumption would be confined more exclusively to women, and in them be produced by their unhappy style of dress.

I believe the great Liebig, who says that of the German males who die between fifteen and fifty, many die of smoking tobacco.

Pass on to *snuffing*. In the first place, snuffing spoils the voice.

How strange it is that any man should willfully change his voice, the richest music this side of heaven, into a nasal snarl, by taking snuff into his nose.

I tell you that a man who doubts the doctrine of total depravity must be staggered by that fact.

Besides, it produces headache and diseases of the stomach, which nobody can cure. An old Scotchman came to me once about his health. He said :—

“Doctor, I have something just here in my forehead, which is not a pain, but a burning, gnawing distress; and I have in my stomach the same gnawing, burning distress.”

And while he was telling this story, he put his hand in his breast pocket, and brought out a horn, such as Highland Scotchmen use for snuff. He turned back the metallic lid, put in his thumb and finger, and brought out a small horn spoon, just adapted to the nostril, dipped it up full of snuff, carried it to his nose, and, *presto*, the snuff was gone! Then he dipped again, and filled the other nostril.

Said I, “How often do you come that?”

"Come what?" said he.

"That little performance you have just been through."

"Oh," said he, "I take snuff, I do."

"Yes," I said, "I began to suspect you might be in that habit."

"You don't think snuff is injurious, do you?" he asked.

Said I, "Now listen to me a moment. How long will that horn-full last you?"

"Well," said he, "if the neighbors let me alone, that horn-full will last me *all day long*."

"And where do you suppose that snuff all goes to?"

"Well," he said, "I never thought about that. That is the snuff's business. I never thought much about that."

Said I, "It certainly don't stay in your nose, because your nose isn't big enough; it could not hold it. Around your nose there are twenty small cavities; each of the cheek bones has a very large one, and every one of these twenty cavities discharges all its secretions into the nose, which is the sewer of the face. Now this snuff that you take into your nose finds its way into those cavities, and the consequence is, you have the burning, gnawing distress in your head; and more than that, the snuff goes directly into your stomach, and produces that gnawing, burning sensation

there." I told him, that in no way could tobacco make its way directly into the stomach, except in the form of snuff.

But I will not push the detail of the influence of these modes further. I will now say, that no matter how you use tobacco, it lets down your tone.

Don't you know that most of us are satisfied with a health that we ought to be ashamed of?

Ask a man, "How are you Colonel?" and he says,

"I am perfectly well; I am always well; I never had a doctor in my life." And yet that man has no spirits, no happiness.

Happiness is the legitimate fruit of health, as apples are the legitimate fruit of apple trees.

I remember in my father's neighborhood was a deacon, a good man, whose name was a synonym for every good word and work. The deacon was not well, and his sickness manifested itself in low spirits. I never heard him say a cheerful thing. I passed his house one day, and saw him in the front yard. It was a magnificent morning; God's smile shone out all over everything. I thought I had the deacon in a tight place, and I said:—

"Good morning, deacon. Isn't this a splendid day?"

"Yes," said he, "*but it's only a weather breeder.*"

The deacon wasn't well; that was his trouble.

I did see a man once that I thought was well. I was walking down Lake Street in Chicago one morning, and I saw a big man, with a great buffalo overcoat and a big fur cap, walking along in a vigorous way, and every few steps he would strike his leg, and jump a foot off the sidewalk, and as he came down he would scream a little, laugh, and walk on. The boys thought he was drunk. It was about seven o'clock in the morning, and the boys, who were taking down the shutters of the stores, would call out to each other,—

"Say, Charlie, he's all right."

But he did not act to me like a drunken man. He certainly was behaving queerly, and being interested in queer folks, as you all are, I hurried along and got up by his side. I looked him in the face and said:—

"Good morning, sir."

"Good morning," he replied.

"Anything the matter this morning?"

With that, flourishing his hand and giving his leg a great slap, he jumped up about two feet from the sidewalk, and as he came down, he squirmed all over, screamed like a railroad whistle, and said, "I feel *good.*"

That man was *well*, and when anybody is well, it crops out in hope, in happiness.

Well, friends, tobacco lets you down; lets you down below the normal level. No man who fills his system with opium, tobacco, or any other narcotic poison, can have high spirits; it lets him down low. Look at the Turks — poisoned with opium. There never was such a solemn people. They never smile.

Our Yankees, who are chawing and squirting eternally, are becoming about as bad as the Turks. I came up from Providence to Boston, to-night, and I declare to you, that when I got out of the cars, I had to wade through seas of tobacco spittle.

I say, these Yankees, who are forever *chawing*, are not a happy people.

With all our wealth, and means of comfort, there are few nations on this planet that have so little real enjoyment.

But friends, permit me one point more. Let us go a little higher. How does a man differ from a horse? Not in having a body, for a horse has a body too; not in having intellect, for a horse has intellect too; not in having a social nature, for a horse, or a dog if you please, is more social than a man.

Then what is the distinguishing characteristic of our humanity? It is the possession of moral and religious sensibilities. These constitute links in that chain which unites us to God o'erhead, through which

every one of us hopes some day in the future to go up like an electric spark, to live above our present selves.

I know I but echo the voices of the wise ones of the world, when I say that this tobacco paralyzes these moral sensibilities almost more than any other habit in which civilized men indulge.

Gentlemen. I advise you to clean yourselves, and quit. I would give it up. It is a nasty, disgusting, ruinous habit. But somebody says, "I can't give it up; I want to, and have tried, but I can't do it. *Can't you?*

If you really are so enslaved that you can't break your chains, I will help you a little. Stop to-night; don't use any to-morrow. The first day will not be so very hard. You can get on pretty well the first day, as everybody knows who has been through the mill, as I have been. The second day is pretty bad. In the afternoon of the second day, your memory is a little doubtful; you can't exactly say whether it was one brother or three brothers that came over; you can't exactly say whether your grandfather came from the east or the west when he settled here. But be patient the second day. The third morning comes the tug. Now go and take an old-fashioned alcohol sweat. Place an alcohol lamp under your chair, put a blanket over your shoulders, and sweat until your skin is fairly

parboiled. Then you will be just as comfortable for one day as you could wish. There is no dryness of the mouth, no disturbance of the secretions. You are perfectly comfortable for one day. The next day you are in trouble again, but not so bad as the day before. Take another sweat; take even a third, or a fourth one. Sweating does not hurt people; sometimes it is good for them. Take three or four thorough sweats, and then you will go off under easy sail, and will have no further trouble from your enemy.

Ladies, I advise you to *sweat 'em*. Whether they will or not; *sweat 'em*.

THE END.

THE PANGYMNASTIKON,

OR

HOME GYMNASIUM.

PROF. SCHREBER'S apparatus, known as the Pangymnastikon, is the most simple and effective means of arm, shoulder and chest development. Its distinguished inventor begged that his name might go down to posterity linked with this *Home Gymnasium*.

It consists of two eight-inch iron hand rings covered with leather, and suspended from the ceiling by sliding straps, with which the height of the rings can be quickly changed. Besides this there are two saddle stirrups, suspended from the hand-rings, likewise with sliding straps.

This apparatus suspended by hooks from the ceiling, in a parlor, bed-room, passage-hall or in any other place where the ceiling is from seven to eleven feet high, and where the width of the room is six feet or more,—the apparatus suspended in such a place, and the six maps with the pictures of the one hundred exercises hung upon the walls, and you are ready for the most fascinating and profitable exercises that I have ever seen. The apparatus furnishes the largest field for the most ambitious gymnast, embracing twenty exercises that none but the most muscular can accomplish; while Map A. and Map B. give pictures of exercises which the most delicate and feeble woman or child may safely attempt.

Indeed, this piece of apparatus seems to realize the ideal physical training for private houses. It can be put up in any place without marring the walls, as a pair of pretty rosettes covers the possible wound in the plastering, and then after the hooks are placed, the apparatus can be put up and taken down in a minute. It affords the most complete exercise imaginable, is adapted to both sexes and to every age and degree of strength, and is withal more interesting and attractive than any other method ever devised.

With respect,

DIO LEWIS.

The apparatus may be obtained of H. C. Clarke, Box 12, Boston, or of myself. Price \$10.

DR. DIO LEWIS'S SPIROMETER.

This is a beautiful instrument resembling a large size lever clock.

This apparatus is designed to enlarge and strengthen the respiratory organs.

The lungs possess an immense number of air cells, in which the blood meets the air, to be purified. To keep these cells open and active, is to keep the lungs in health.

A close dress, stooping posture, lack of exercise and many other causes lead to the closing of a portion of the air cells. This is the beginning of disease of the lungs.

Consumption, for example, begins with closing a part of the air cells. It cannot begin while these are open and the air is freely admitted. This Spirometer is so contrived that the air is pressed into the cells by the united force of the whole respiratory muscles. In the other spirometers the air is rapidly forced out of the lungs, and the air cells closed. In this, the lungs are filled to their utmost capacity, and then, while a great effort is made to move the dial-hand by blowing into the mouth piece, not more than three cubic inches of air can enter the bellows of the instrument; so the lungs remain distended, and the ten to seventy ounces pressure upon the square inch will not only be felt in the instrument, but will by the effort of blowing be distributed through every portion of the lung, and thus the air cells will be completely filled. This instrument rests upon a scientific basis.

President Felton, of Harvard University, used one, and after two months wrote me a letter about it, in which he declared that the use of the spirometer had given him uniformly warm feet, which he had not enjoyed for many years, showing that the quantity of air taken into the lungs had been greatly increased.

I think that this spirometer has enlarged and strengthened the lungs more than any other means. Many persons who had long suffered from short breath, have found an immediate and complete relief by its use. I conscientiously believe that every case of incipient consumption can be arrested by it.

It is a beautiful parlor ornament, and will not get out of order.

For sale at my office, 17 Beacon St., or it is boxed and delivered at an express office. Price \$10.

Respectfully, DIO LEWIS,

DR. DIO LEWIS'S TRAINING SCHOOL, FOR TEACHERS OF THE NEW GYMNASTICS.

The twelfth session of Dr. Lewis's "NORMAL INSTITUTE FOR PHYSICAL EDUCATION" will be held in Boston in the summer of 1871, beginning on the 12th of July, and continuing six weeks.

A series of lectures upon Anatomy, Physiology, and Hygiene, and a course of training in Elocution by a competent teacher, will be given in connection with the training in the *New Gymnastics*.

Board may be obtained in Boston during the summer months at very reasonable prices, say from five to eight dollars per week. It need hardly be said that Boston is singularly cool and breezy during the summer months.

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And “OUR GIRLS.”

Each of these works contains between three and four hundred pages.

The next in order, will be a handsome volume, devoted to the treatment of sexual weaknesses, to be known, probably, as “MANHOOD AND WOMANHOOD.”

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